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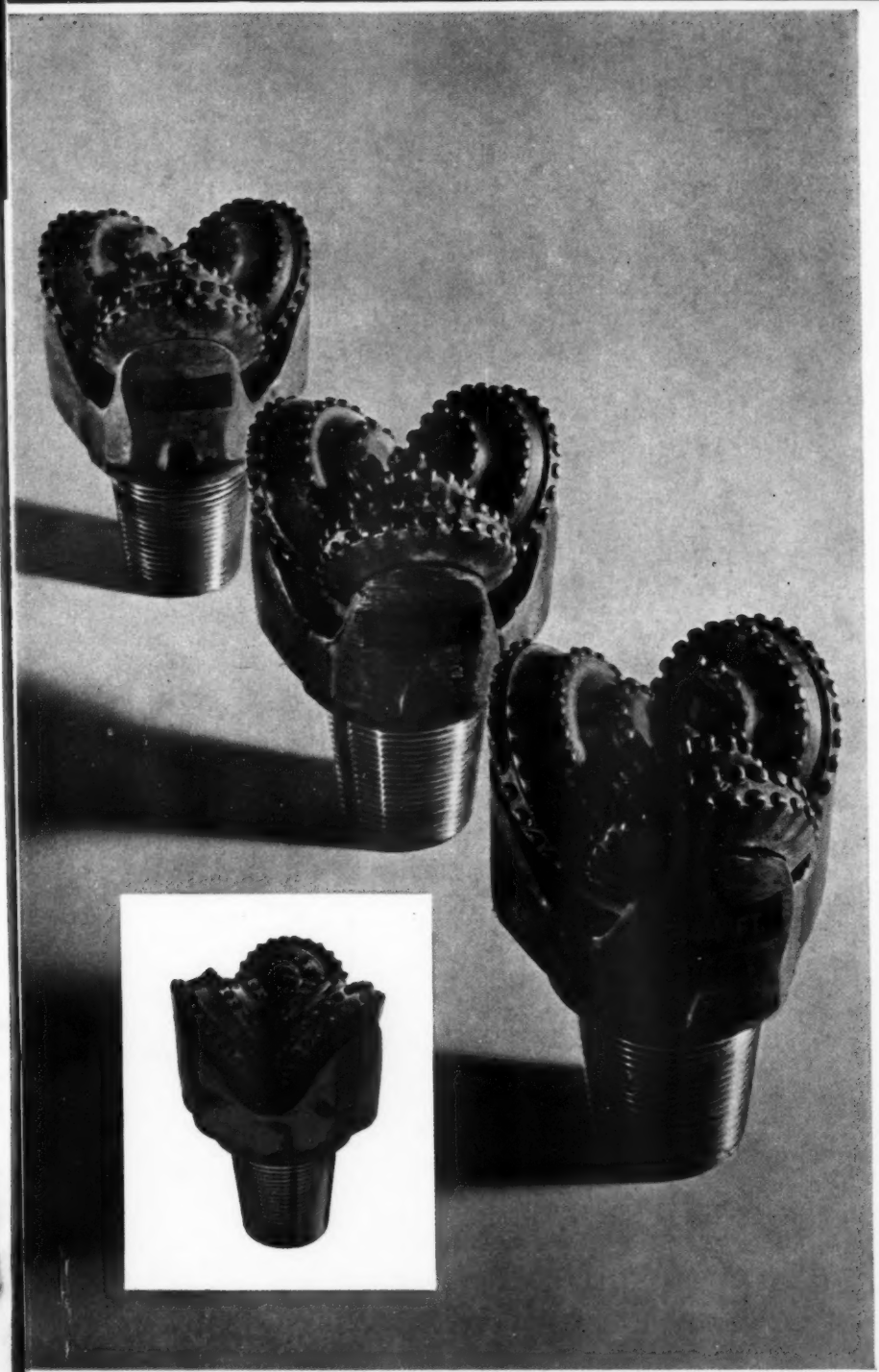
Offshore

The Marine Oil OPERATIONS Journal

C. E. THORNTON Economy Mobile Unit

See Page 15



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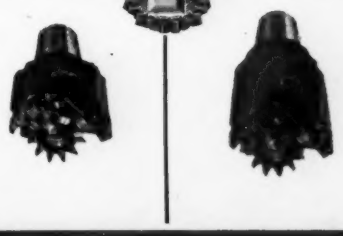

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JULY, 1958

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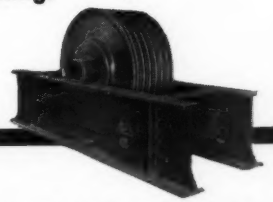

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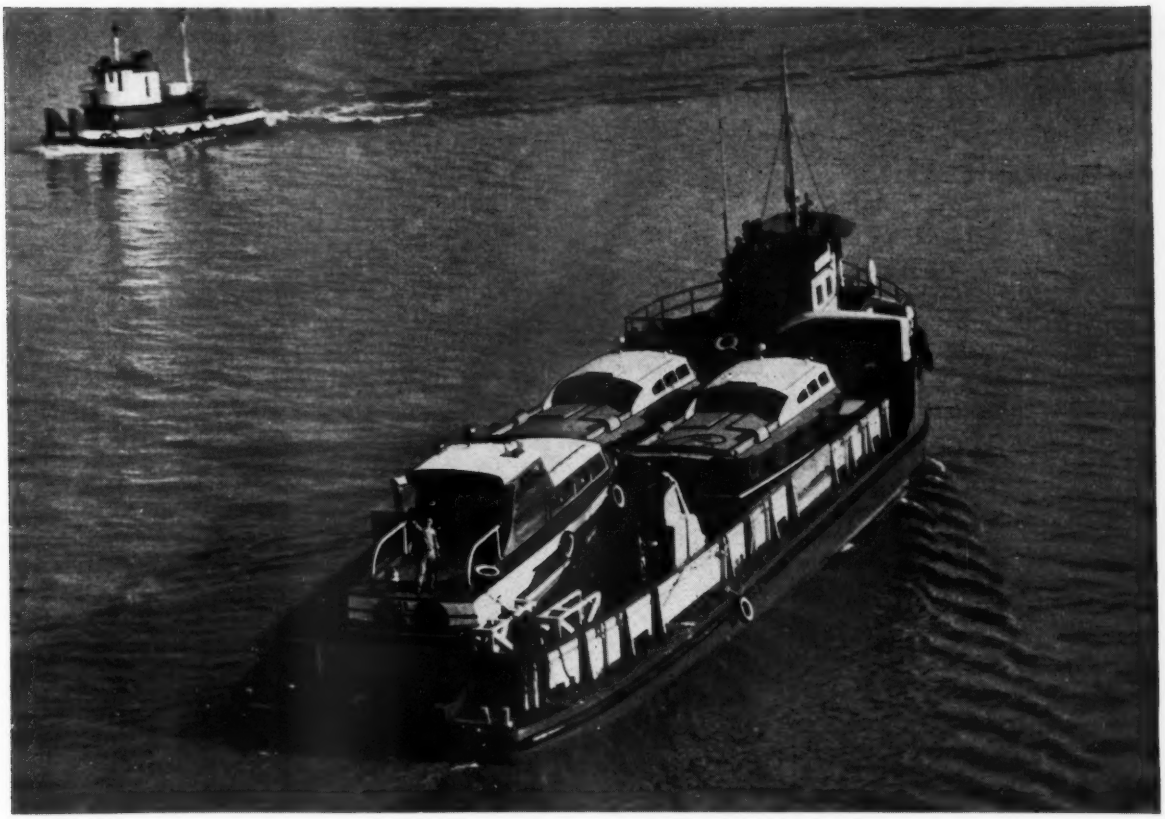

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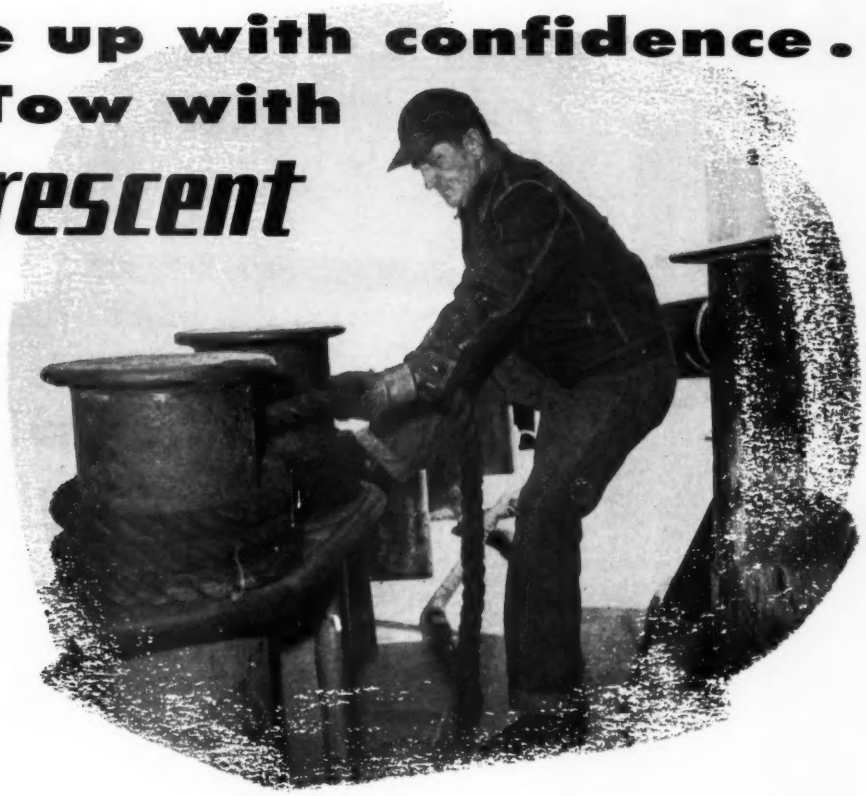

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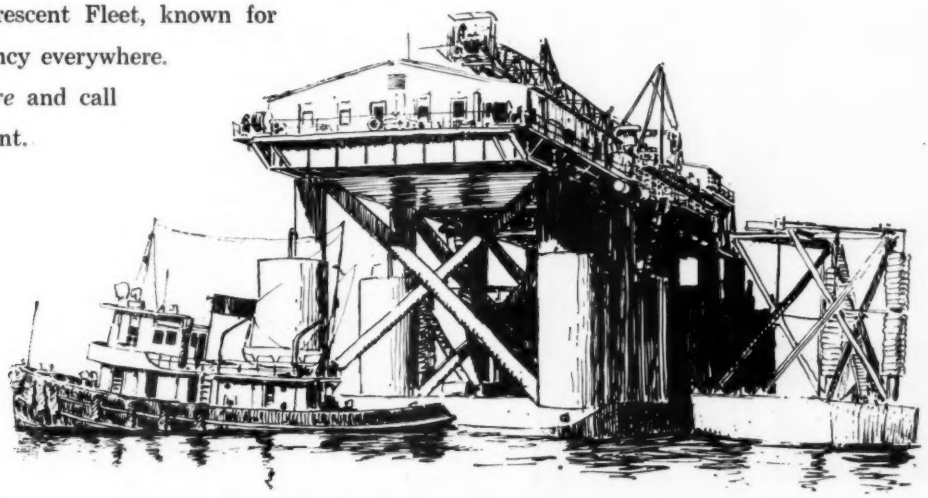

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With the Publisher

WELL, we've kicked off a companion publication, **Petrochemical Industry.** And like the rhyme that goes, "When I was a little boy so high, I fell in the slop jar up to my eye . . . " we're immersed a bit past that in plain old pants-dragging work!

But it's a fascinating business. For if you're a chemist, you can add a little of this and a little of that, do some "cracking"—and your frozen daquirris will come out better every time.

We're also involved in another important project—building fence. With the help of a couple of college football players, and a water (?) jug and a handy shade tree, we're about to get the fence in good shape around the pasture in back of our office. We've been promising the kids for a long time that we'd do it, and bring in some saddle-ponies, and we're pleased that it's underway. If our energy holds out, we plan to add three or four golf greens, just to have a place to walk around and think.

A lot of people seem astonished at the idea of a "pasture" and a "garden" in connection with an office. But since our office is in the country, we try to act like country folks. We made one big mistake, however. We launched our garden at about the same time we started work on **Petrochemical Industry.** Since the latter assumed priority, we now have one of the prettiest weed patches in any garden in the country!

But one thing we did hoe out was the watermelon rows. So along about July 15, if any of you happen to be driving past, just drop in and we'll see if we can't pull some cold watermelon out of the refrigerator. If you're not in this neck of the woods . . .

Well, we'll be writing at you next month!

Long John Latham

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Alexandria Indictment . . .

Fallacy and Expensive Folly

It is regrettable that numerous government lawyers and the legal staffs of 29 oil companies should be tied up for years fighting a fruitless battle destined to end in dismissal for lack of evidence, (actually no evidence at all).

The Justice Department will spend millions of dollars trying to prove that the oil companies, indicted by the Alexandria, Virginia, federal grand jury, got together and conspired to raise the price of crude oil and gasoline in late 1956 and early 1957.

The continuous fluctuation of crude and gasoline prices seems to contradict this contention. Prices went up during the Suez crisis then started slipping back down and have continued along the downward trend ever since. It would seem that the 29 "big-bad oil companies" could surely conspire better than this, if such had been the case.

It is the duty of a grand jury to hear the prosecution side of a case, examine the evidence and decide if there is enough evidence to justify an indictment. It is the grand jury's duty to safe guard the public interest. But this responsibility to the public includes the defendants who are innocent until proven guilty.

One often hears and occasionally speaks of "Big Government," a "Big Oil Company" and "Big Business" as single entities. We often read and hear of "government interference," and "government encroachment," and also of the "big oil companies" or "big steel companies" strangle hold on the nation's economy or their disregard for the public interest.

When actually the public is big business and at the same time the public is big government too. It is individual votes cast by millions of stock holders and citizens that decide the policies of our country's large corporations as well as our country's government.

Thus the long drawn out court battle will be paid for, not by "Big Oil Companies" and "Big Government" but by little stock holders and little tax payers.

The grand jury in Alexandria should have considered this, along with the tremendous amount of damage such accusations do to a defendant's reputation and community standing, even though they are never proven, before bringing forth their nebulous indictment.

Daily papers tell of the various gasoline price-wars in the major cities throughout the nation. In the oil producing areas, newspapers carry the constant fluctuations of posted prices for crude oil. Prices that fluctuate according to producing area, grade of oil and the demand for that oil.

One need only to pick up a daily newspaper to see the fallacy and folly of the Alexandria indictment.

The Editor

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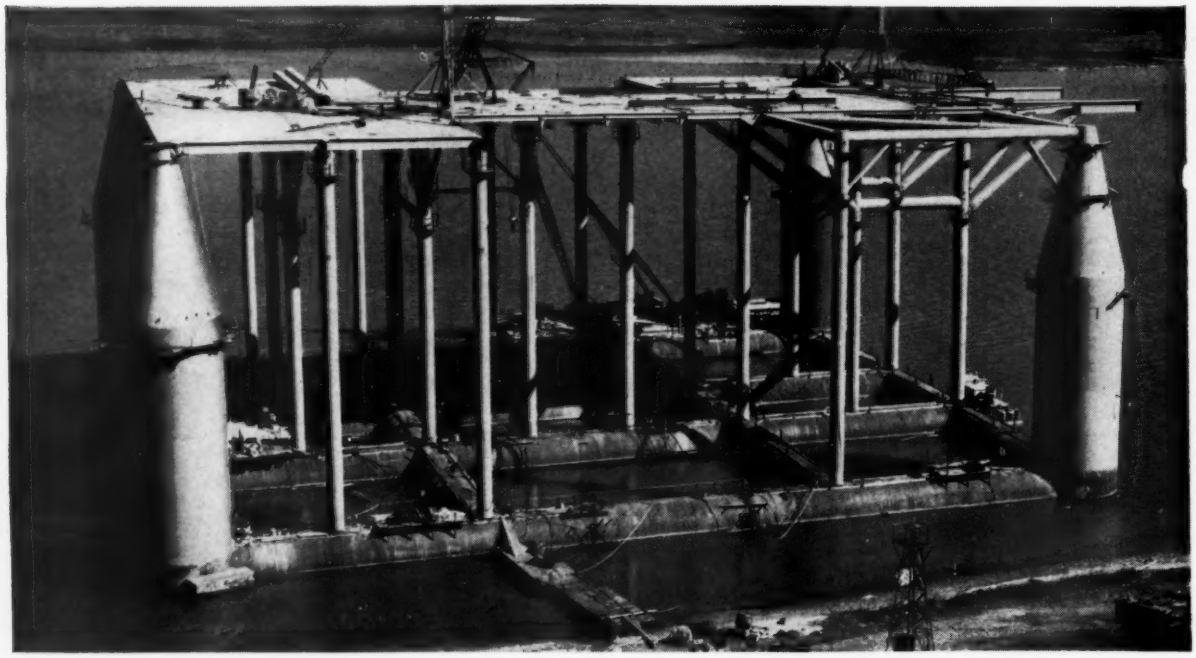


Construction of this high, wide and heavy structure proves our Orange Ways can easily handle any size and type of off-shore drilling barge.

The strange-looking mass of steel above is not something from Mars. It's from Texas... from our Marine Yards at Orange, where our 120′-wide Ways are large enough to handle a big job like the Kermac 47 *in just two sections.*

Kermac 47 is 242′ long x 202′ wide x 100′ high and contains nearly 8 million pounds of steel. The lower hull members are 14′-6″ in diameter. The corner supports are almost big enough to run a two-lane highway through, being 22′ in diameter for the lower 65′. The large vertical tubes stabilize the barge during raising and lowering, while the horizontal tubes provide buoyancy as the unit is towed to location. Flooding settles the barge firmly to the ocean floor. Kermac 47 can operate in water up to 70′ deep.

If you would like to know about our Orange facilities and our ability to build any type of off-shore drilling equipment, an inquiry will bring further details.

TWIN

of the world's largest ocean-going drilling barge.

American Bridge is proud of the job it did in building the Kermac 47 for its designers and owners, the Kerr McGee Oil Industries. This huge floating platform, which is as large as an eight-story building covering two-thirds of a city block, was built in just 2 sections on our extra-wide ways at Orange, Texas.

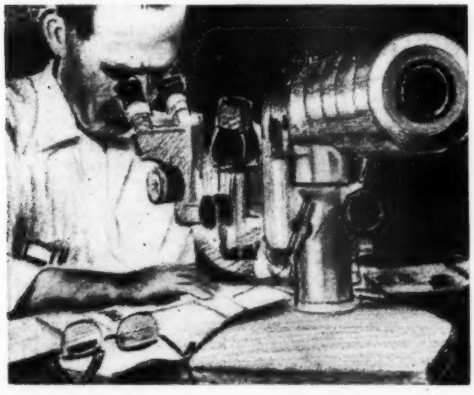
American Bridge
Division of USS United States Steel

Marine Department: Ambridge, Pennsylvania—Houston, Texas. Ways at Ambridge, Pa., Trenton, N. J. and Orange, Texas

A Byers field service representative can relate new 4-D Wrought Iron test results to the specifier's corrosive applications.

Laboratory and field test results lend added support to 4-D Wrought Iron specs

Our metallurgical staff compiles and analyzes great funds of data on corrosion-resistant materials.



With some products, a company representative's natural enthusiasm is often *tempered* by actual test results in the laboratory.

Not so however, with new 4-D Wrought Iron. Byers field service engineers can present research facts which confirm the increased corrosion-resistance of this new product.

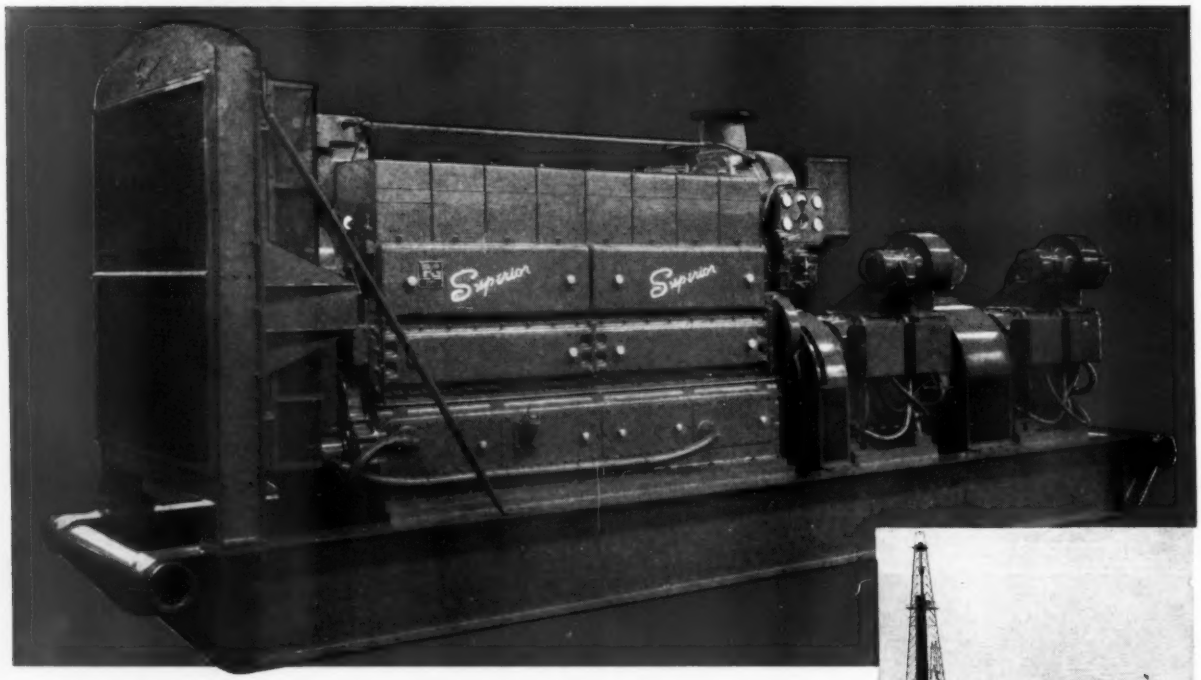
Comparative testing with standard Wrought Iron, as well as many ferrous substitutes, proves new 4-D Wrought Iron a decidedly superior deterrent to corrosion. So the wisdom of standard Wrought Iron specifications may now be further enhanced by specifying new 4-D Wrought Iron.

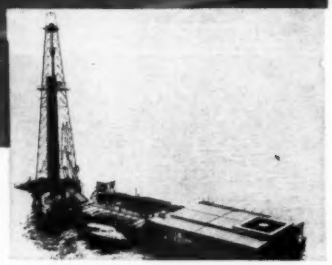
Byers field service engineers are lending even more credibility to this story with their own knowledge of corrosive infighting. The Byers representative will welcome an opportunity to relate these test results to your corrosive applications. Call him soon. Or, write us for helpful literature on new 4-D Wrought Iron. A. M. Byers Company, Clark Building, Pittsburgh 22, Pa.

BYERS WROUGHT IRON

Esso Creole Petroleum selects

White DIESEL White's Superior Diesel-Electric





Lighter, extremely simple, more powerful drilling rig power plant!

Creole Petroleum Corporation, a Venezuela affiliate of Standard Oil Company (New Jersey) chose White's Superior Diesel-Electric power for drilling operations on Lake Maracaibo in western Venezuela. The complete power package, including three 900 HP Superior engine-generator sets mounted on the 180′ long by 70′ wide barge, will dependably provide a total of 2700 HP. From simplified controls, the driller can direct 2,000 HP to the platform draw works or 2,300 HP to the mud pumps. White's diesel power concentration achieves simplicity, compactness and light weight. The favorable power to space ratio obtained through electric motors behind the draw works means Creole Petroleum can use a standard size platform and yet have ample power for deep drilling.

Creole's barge power components consist of 3 engine-generator sets, 5 drive motors, and simple controls. White's well known Superior oil field engine and rugged 400 KW generators in tandem make up an engine-generator set. Large drive motors are rated 625 HP continuous and 1000 HP intermittently. Greatly simplified controls allow application of power where required, either to draw works, mud pumps, or to both when pumps and rotary are operating.

White's range of other diesel-electric drilling power packages combines the Superior oil field engine and rugged 300 to 550 KW generators. Largest drive motors are rated 1000 HP continuous and 1250 HP intermittently. All components are stocked, standard production items, ready for prompt delivery.

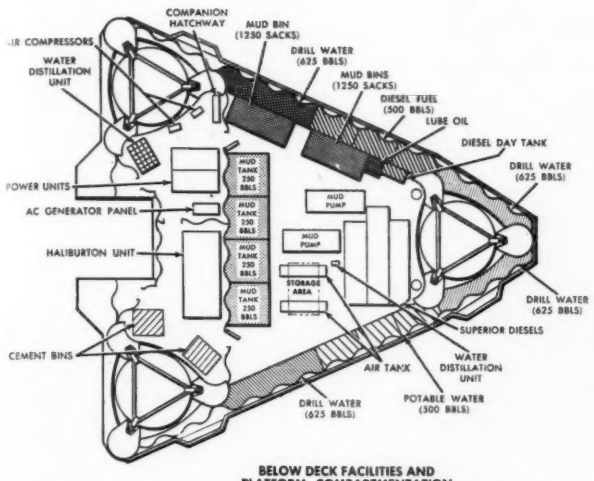
Superior ENGINES ATLAS Imperial DIESEL ENGINES White DIESEL

WRITE TODAY FOR COMPLETE INFORMATION...

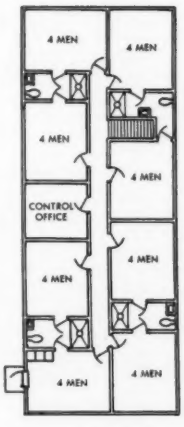
White Diesel

WHITE DIESEL ENGINE DIVISION

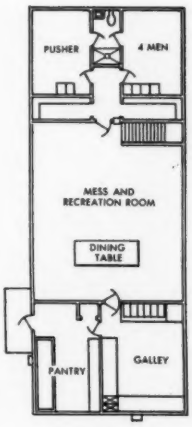
THE WHITE MOTOR COMPANY Plant and General Offices: Springfield, Ohio



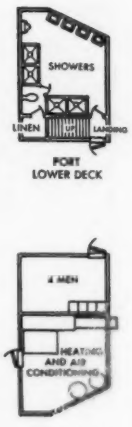
BELOW DECK FACILITIES AND PLATFORM COMPARTMENTATION



UPPER DECK



MIDDLE DECK



CREW QUARTERS

Diagram of platform layout aboard the C. E. THORNTON shows plainly the concise economical design of the unit. Note bulk storage areas built into the sides of the hull and drilling equipment located near the drilling slot. Crew still has room for spacious quarters.

Reading & Bates gets . . .

New Economy Mobile Unit

LeTourneau built C. E. THORNTON is a third smaller and a third less expensive than conventional self-contained platforms

A NEW offshore drilling platform designed to lower operating costs for the offshore oil industry was christened recently in New Orleans. After ceremonies the new economy platform was towed directly to its first drill site on CATC's Block 115, East Cameron Area lease, off the Louisiana Coast.

Basic platform weighs about 3000 tons and cost less than $2 million. The platform was built by R. G. LeTourneau, Inc. of Longview, Texas, for Reading & Bates Offshore Drilling Company of Tulsa, Oklahoma.

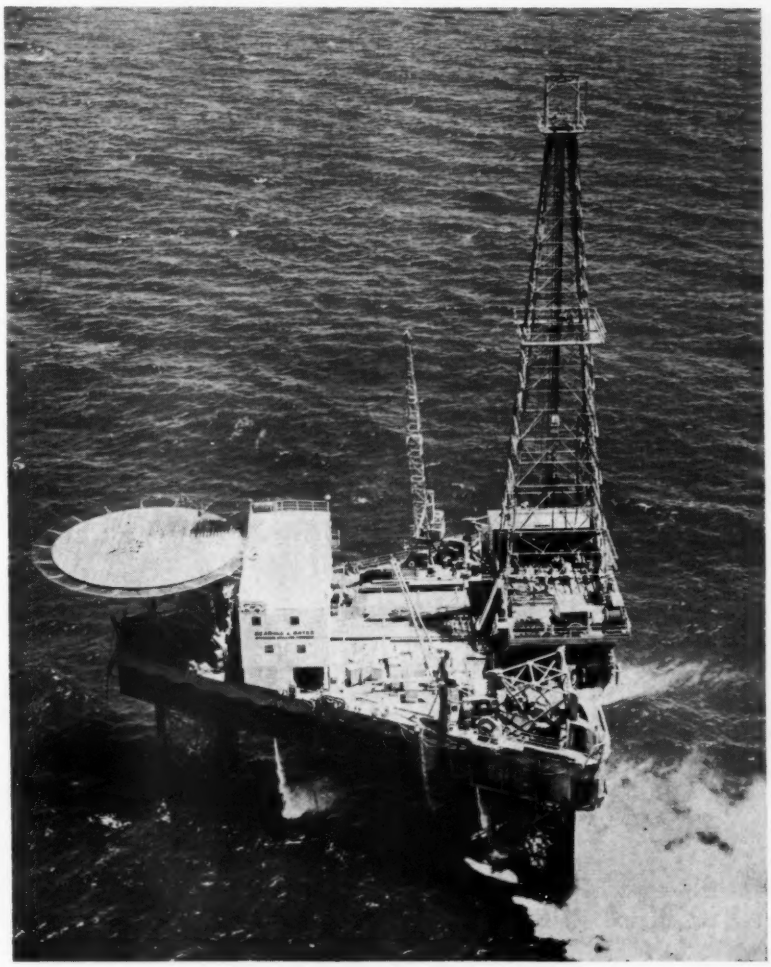
Platform was christened the **C. E. Thornton** in honor of Charles E. Thornton, executive vice president of Reading & Bates Offshore Drilling Company.

Chief economical feature of the platform is its one-third smaller size, making it less costly than other self-contained platforms in the Gulf, though it is rated to drill to depths in excess of 15,000 ft. in waters over 85 ft. deep.

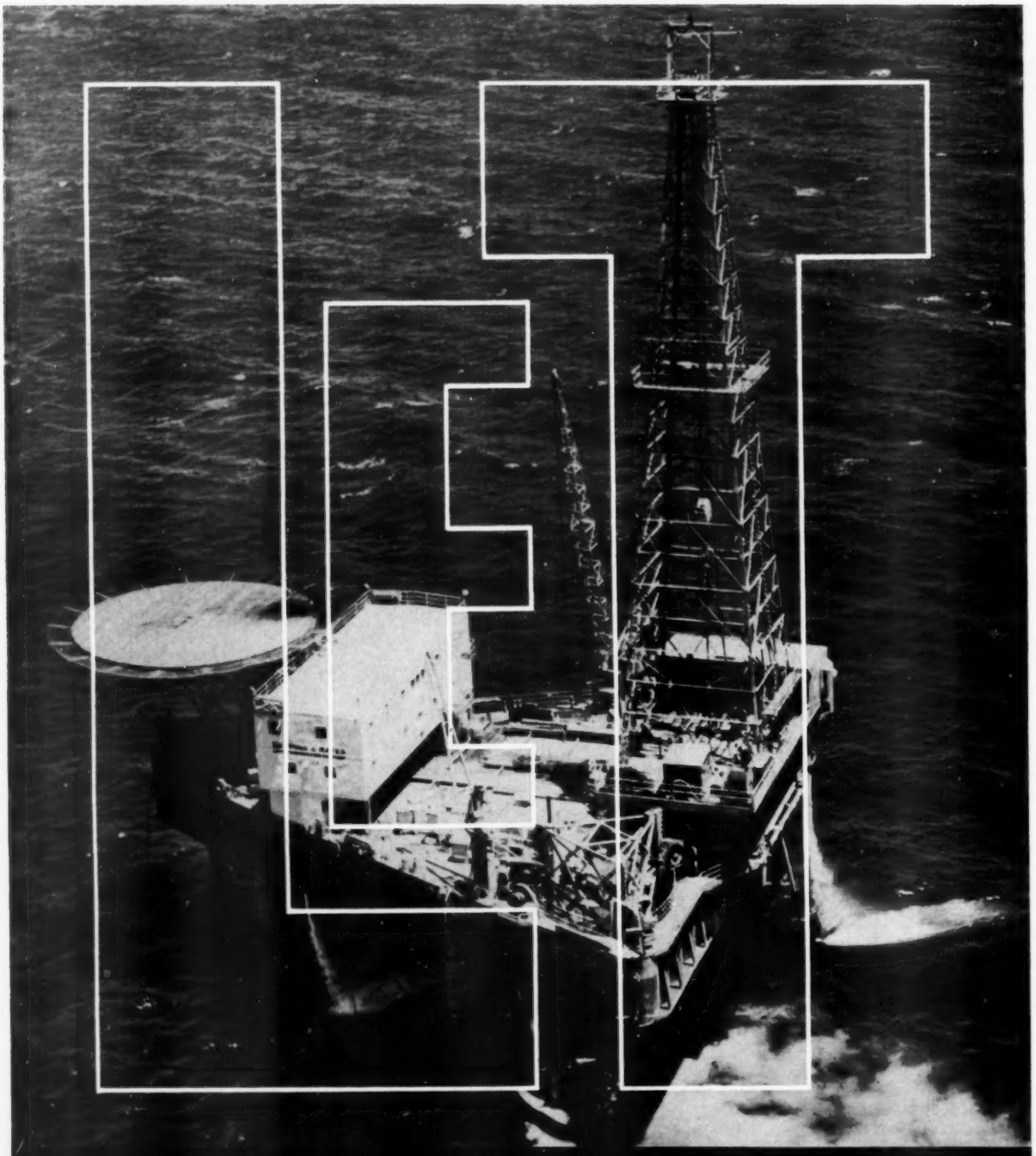
Over all platform length is 153 ft. and width is 139 ft. Hull is 15 ft. deep. Spud legs are 140 ft. long ending in 20 ft. round spud tanks 24 ft. in diameter.

Reduced to its simplest components, the platform consists of a huge triangular hull mounted on

(Continued on page 17)



C. E. THORNTON on location and drilling in Block 115 East Cameron Area in 50 ft. of water. Double crane arrangement gives easy equipment handling.



The C. E. THORNTON was built to Reading & Bates specifications by

R. G. LETOURNEAU® INC

LONGVIEW TEXAS

FOR DESCRIPTIVE BROCHURE WRITE MARINE PRODUCTS DIVISION,
2877 SOUTH MACARTHUR, LONGVIEW, TEXAS

M 112

C. E. Thornton . . .

(Continued from page 15)

three triangular legs—each as high as a 10-story building. In operation, the unit is floated to any desired location, push-button controls are pressed, and the electrically-powered legs are lowered to the ocean's floor. When solid footing has been gained, the hull then rises out of the water, lifting as much as three million pounds of drilling equipment, mud fuel, water, quarters, piping and supplies. The hull climbs the three legs at the rate of a foot per minute.

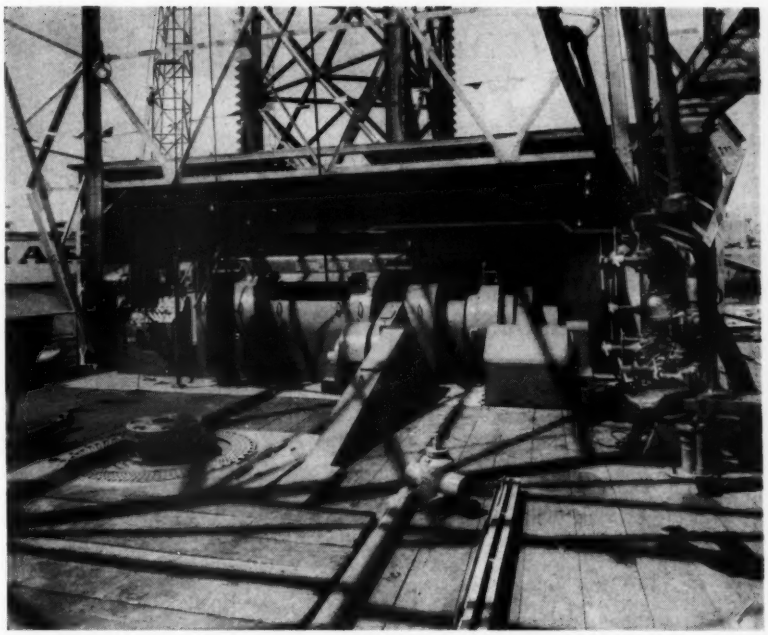
Upon completion of a well, the operation is reversed. The hull is lowered to the water, the legs raised from the ocean floor, and then the platform is ready to be floated to a new drilling location immediately.

Spud legs . . . The mobile unit is equipped with three electro-mechanically powered spud legs. Each triangular shaped spud is constructed with three 140 ft. racks which connect to bearing tanks. The spuds are raised or lowered by LeTourneau electric gear motors driving through a gear train located at the corners of each spud.

Spuds are controlled from a central spud control panel, giving quick and easy spud adjustment.

Unit is kept level with the help of a Moeller Instrument Company inclinometer. Independently operated legs maintain a level drilling platform under adverse bottom conditions, despite variations in shear value and contour of the bottom. Spud penetration minimizes the possibility of any side shifting.

Drilling equipment . . . Drawworks aboard the **C. E. Thornton** is an Ideal type 110 consolidated drawworks with six hoisting speeds and three rotary speeds. Drawworks also has Ideal type B-1 air catheads.



Drawworks aboard the mobile unit is an Ideal 110 consolidated drawworks with six hoisting speeds and three rotary speeds. Rotary table is a 27½ in. Ideal.

Air operated controls for all air clutches, sand reel, inertia brake, catheads, engine throttles, cyrol couplings and two speed pump drives are located at the driller's position. Also near the driller's position are a H-6 Martin Decker long torque indicator and gauge, and weight indicator.

Mounted on the 16½ foot substructure is a Lee C. Moore 140 ft. derrick, capable of withstanding 100 mph winds.

Rotary is a Ideal 27½ in. chain drive table. Traveling equipment includes an Ideal swivel with a 4-in., 55-ft. Chiksan rotary hose, a 5¼ in. hexagonal kelly with a 60 ft. Raybestos Manhattan kelly hose, an Ideal type 548-F traveling block and a Byron Jackson 4300 hook.

Mast is also equipped with a Reagan crown block and lighted with a Flolight derrick lighting system.

Rotary tongs and pipe elevators were furnished by the Byron Jackson Tool Company.

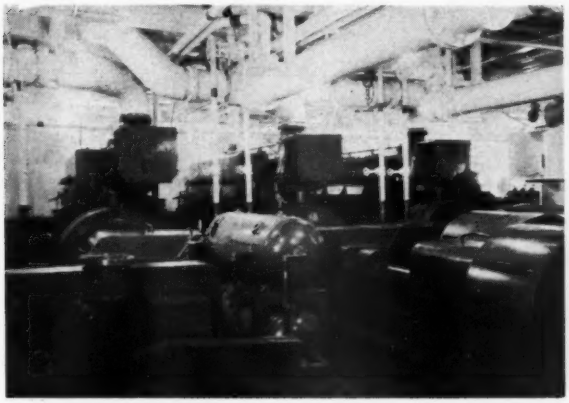
Three Yale hand hoists and three Ingersoll-Rand air hoists are also located on the derrick floor.

Blowout preventer system is made up of both Hydril and Cameron blowout preventers actuated by a Koomey T-8 closing unit.

Mud system . . . High pressure for fast drilling is developed by an Ideal G-1000 mud pump and a G-700 pump complete with QR valve cover plates, and Hydril pulsation dampeners.

Four Peerless vertical pumps transfer drilling water from the

(Continued on next page)



Three Superior PTDS-8 diesel engines furnish 2400 bhp to power the National G-1000 and G-700 mud pumps.

Two Superior PTDS-6 diesels located on the drilling floor furnish 1200 bhp to the chain driven drawworks and rotary.

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High pressure for fast drilling is developed by an Ideal G-1000 mud pump and a G-700 mud pump complete with QR valve cover plates and Hydril pulsation dampeners.

C. E. Thornton . . .

(Continued from preceding page)

2500 barrel drilling water storage tanks to any one of the four 250 barrel active mud tanks. Then elevators bring a measured amount of mud from the 4000 sack bulk mud hoppers and Lightnin mud mixers mounted on each bin mix the mud.

The system is also equipped with six Chiksan non spin mud mixing guns and a Lightnin chemical mixer.

Auxiliary equipment includes a Halliburton cementing unit and 1500 sacks of bulk cement, a Schlumberger unit, degassing unit, a desander, and a Model 57 dual Link Belt shale shaker.

Power . . . A pair of White Motor Company Superior 600 hp PTDS-6 diesel engines power the drawworks on the drilling floor. Power needs on the main machinery deck below are met by three PTDS-8's compounded to the mud pumps. With the power thus split the rig is equipped for drilling to 20,000 ft.

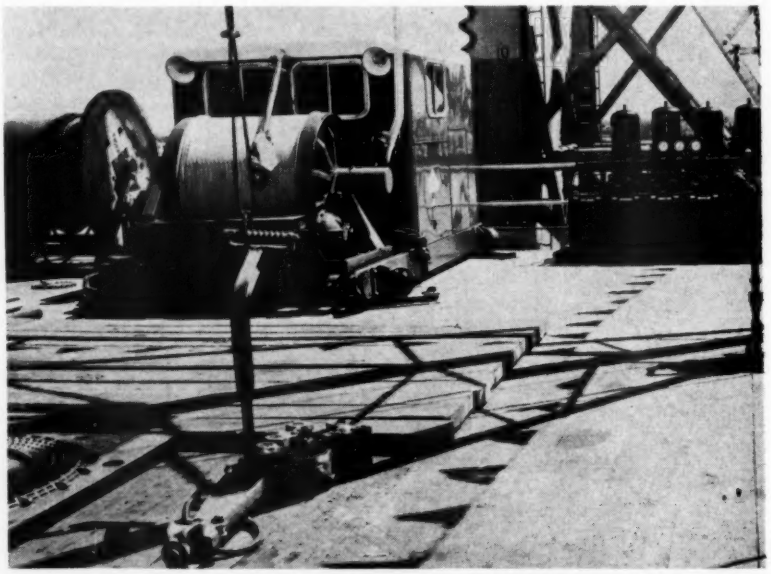
The power reserve represented in five Superior PTDS engines, a total capacity of 3600 bhp, indicates a rig well able to handle remote or wildcat operations.

For the engine cooling systems two Blackmer rotary pumps furnish water to the five Ross water-jacket heat exchangers.

Two Meco Model PD-300 G thermocompression distillation plants utilize waste heat to produce fresh water for platform needs.

Two diesel electric generator sets

(Continued on page 20)



Koomey T-8 closing unit at the right actuates the combination Hydril and Cameron blowout preventor system. Schlumberger unit in the center allows the C. E. THORNTON to have its own complete wire line service.

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Complete facilities for applying

ANCHORCRETE

Concrete Coatings

When your pipelines require anchoring to offset buoyancy, remember that Pipe Line Service's Harvey plant is completely equipped to apply dependable "Anchorcrete" reinforced concrete coating over high-quality PLS coating and wrapping specifications.

From unloading the bare pipe to loading of the finished product, all operations are under one supervision . . . *one* responsibility. Uniform quality of Anchorcrete is assured through use of prime materials, careful batching, controlled mixing and thorough curing.

Harvey's ample storage facilities enable you to take delivery of your Anchorcreted pipe when you need it. More than 600 feet of dock space, with traveling crane, provide speedy loading directly onto your barge. This eliminates extra handling; assures delivery of protected pipe in perfect condition.

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Some of the men who operate the C E. THORNTON are from the left: C. L. Ledoux, tool pusher; D. R. Stewart, tool pusher; J. W. Nickle, superintendent; Cy Allen, mechanic; and Leo Clark, tool pusher.

C. E. Thornton . . .

(Continued from page 18)

furnish power for auxiliary equipment.

Auxiliary equipment . . . Operational equipment aboard the triangular unit includes two LeTourneau cranes capable of revolving a full 360 degrees for easy equipment handling.

Platform is anchored on location by three 4000 pound Baldt anchors and three LeTourneau electric mooring winches.

Communications aboard the **C. E. Thornton** include a Hose-McCann intercom phone system with seven stations and an AM and FM communications to shore and supply vessels.

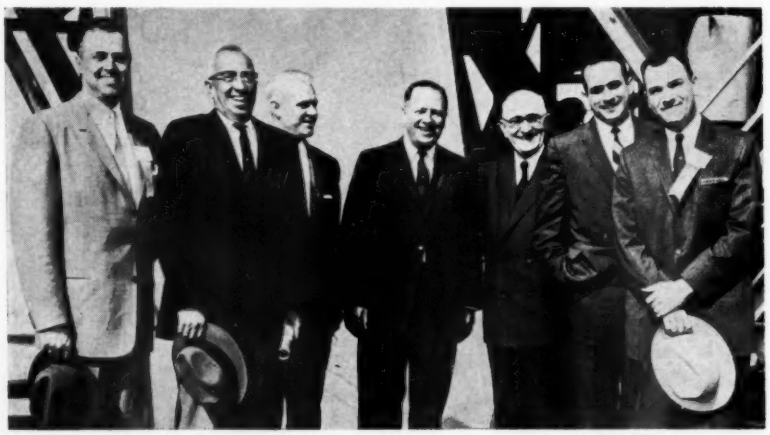
Crew quarters . . . Air conditioned crew quarters with galley, refrigerators, dining and recreation room, change rooms, laundry and office make living conditions for 42 men spacious and comfortable.

Company . . . The Reading & Bates Offshore Drilling Company was incorporated on October 19, 1955, for the purpose of operating offshore drilling equipment in the Gulf of Mexico. The company was organized by the owners of Reading and Bates, Inc., and Reading and Bates Drilling Company, Ltd., who have been engaged in the contract drilling business for over 22 years.

The executive offices are located in 1101 Philtower Building, Tulsa, Oklahoma, and general management offices are in 610 Saratoga Building, New Orleans, Louisiana, with operations being directed out of 616 Pioneer Building, Lake Charles, Louisiana.

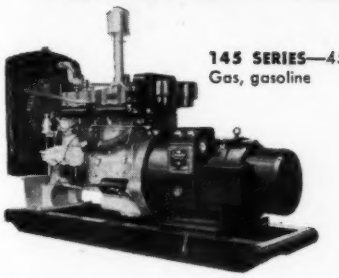
The directors of the company are J. W. Bates; J. W. Bates, Jr.; Milton G. Hulme, president, Hulme, Applegate & Humphrey, Inc., Bank and Trust Company, Tulsa, Oklahoma; and C. E. Thornton.

The company is presently operating two Levingston type drilling tenders complete with drilling rigs. The addition of the $2,800,000 **C. E. Thornton** mobile drilling platform complements the present equipment.



Officers and associates of Reading & Bates Offshore, Inc., present at the Christening ceremonies of the C. E. THORNTON were from the left: J. W. Bates, Jr., J. W. Bates, Russel Hunt, Milton Hulme, Elmo Thompson, J. W. McLean and C. E Thornton

WAUKESHA



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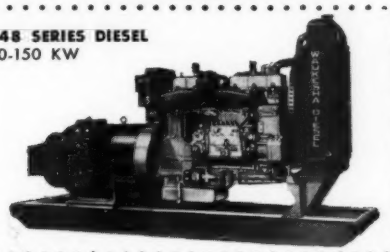

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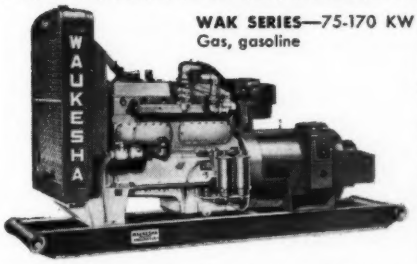
Gas, gasoline



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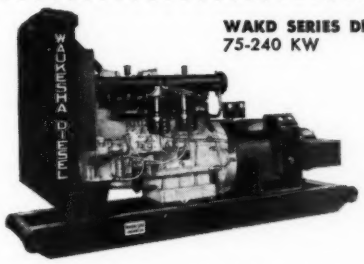
75-240 KW



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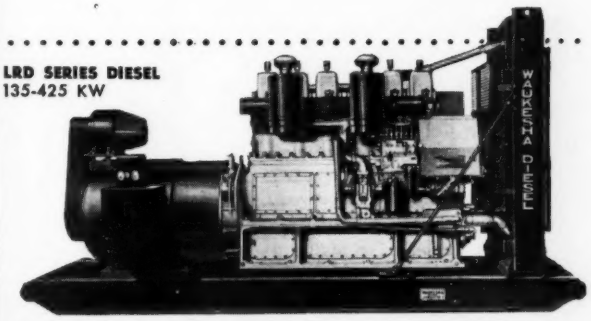

NKRBU—80-180 KW
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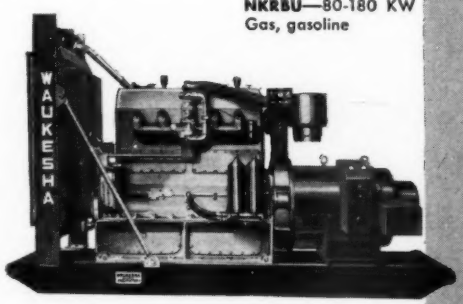

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336-R-1

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High Frequency induction . . .

Automatic Welding Process

New butt welding process uses high frequency current with controlled pressure, torsion and vibration

A new process for butt welding steel pipe in the field with mobile equipment has been developed by Consolidated Edison Company of New York, using induced high frequency electric current in combination with controlled pressure, torsion and vibration. The resulting weld is sound and possesses characteristics ideal for pipe line joints. The build-up of metal, or bead, occurs around the outer periphery, while the internal diameter at the joint remains full pipe size. There are no problems of removing flash or slag. No extraneous weld metals are introduced to alter the basic characteristics of the steel in the pipe.

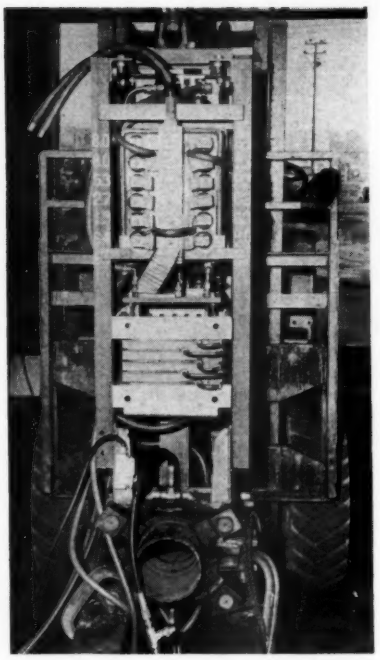
Several years ago, Con Edison became interested in the possibilities of adapting induction heating methods to improve existing installation practices on electric, gas and steam transmission and distribution systems. The New Rochelle Tool Corporation, which specializes in high frequency industrial tools was asked by Con Edison to provide equipment suitable for butt welding of steel pipe.

The induction heating equipment and work coils for various sizes of pipe were manufactured by New Rochelle. For the generation of high frequency current a 100 kilowatt, single phase, 10,000 cycle per second electric generator driven by a diesel unit is used. Both units are cooled by a water system. A standard control unit, containing the necessary meters, timers, capacitors and protective devices, is used to regulate the output required to heat the various sizes of pipe. The work coil and pipe load are matched to the high frequency generator by a water-cooled output transformer capacitor bank.

Con Edison designed and constructed the line-up and pressure-producing hydraulically-controlled jigs for handling of the pipe materials and adapted the mobile equipment. The aim in this development was to speed the laying of pipe line systems in trenches in congested New York city streets. But the same technique could be used to speed offshore pipe laying.

Con Edison made investigations to determine how the quality of an induction type weld would be affected by varying factors involved in the process. These variations included temperature, pressure, electric power, time for welding and pressure cycle, shape and preparation of butt joint, fluxes, atmospheres and mechanical and electrical vibration, axial and torsional, in the region of the weld area.

The first unit has been assigned to the field for several months, and has produced several hundred welds. The equipment is assembled on a 7½ ton Army surplus trailer, which houses the diesel unit, high frequency generator and control equipment.

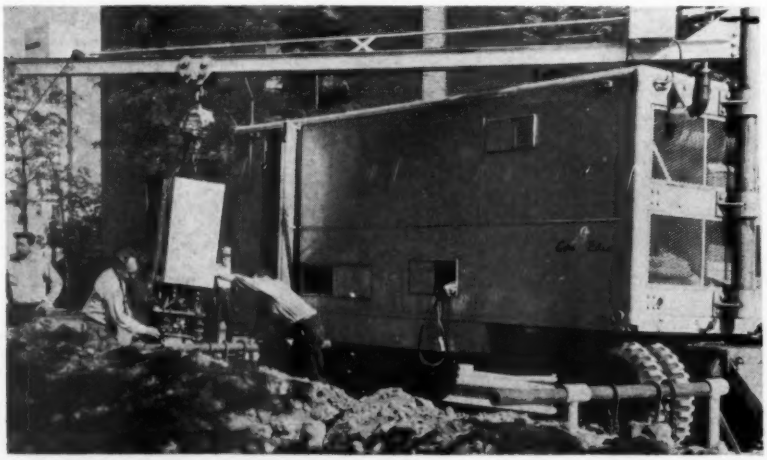


Internal view of the induction welding unit shows work coils, cooling system and controls.

To permit operation in a trench, an eighteen foot boom carries the output transformer, work coil, pipe alignment jig and hydraulic clamps. The clamps are attached to the pipe sections and exert from two to four thousand pounds per square inch, depending on the wall thickness. Argon gas is sprayed around the weld area at the time of the weld to create as nearly as possible an inert pocket to keep atmosphere away from the butt edges.
This method will allow up to four welds an hour, including set-up and welding time.

An even faster method will be used when feasible. In this second method the equipment will be stationary and the pipe pulled through the machine on a special line-up table. As each weld is completed, the pipe will be pulled along and the next section of pipe will be placed in position for welding. Up to tend welds an hour may be achieved in this manner. This is the exact method of offshore operations.

While equipment has been developed for pipe sizes up to 14 inches, the major use at first will be for pipe type conduits for high tension underground transmission cables. The future may well find this machine changing offshore pipe laying methods.



Mobile equipment speeds the laying of pipe. When the welding machine is moved along the pipe, four welds per hour can be made. When the pipe is pulled through the welder, up to ten welds per hour are possible.

ADMA ENTERPRISE Hits New Oilfield in Persian Gulf

Adma Enterprise, a mobile unit operated by Abu Dhabi Marine Areas, Ltd., may have discovered the first offshore oil well in the southern end of the Persian Gulf.

If the well is completed, it will represent the third offshore field discovered in the Middle East.

British Petroleum Trading Company, operator on the 12,000-square mile concession on which the Adma F-1 is located, declined to release any data on the apparent discovery; however, it is known that several hundred feet of oil sand had been drilled through. BP did not deny that the sweet 35-degree gravity oil was present in commercial quantities.

Oil was first encountered in the Cretaceous at 5500 ft. and again at 6500 ft. at last report, the operator was drilling toward the Arab Zone which lies deeper.

The discovery may cause Iran to raise the concession prices for its unleased acreage in District 1 across the Persian Gulf.

Adma Enterprise, which spudded the wildcat last January, is a 4000-ton DeLong type mobile platform carrying a rig that can drill to 15,000 ft.

The 12,000-sq. mi. concession is owned two-thirds by BP and one-third by Cie. Francaise des Petroles.

Two previous wildcats drilled in the vicinity by Royal Dutch Shell resulted in dry holes.

Second Persian Gulf field was opened recently by Arabian American Oil Company at its Manifa No. 1 eight miles offshore from Saudi Arabia. It was finaled from the Yamama formation, a new horizon which lies above the Arab zones.

Weather Bureau Establishes 100 New Hurricane Stations

Offshore men will soon be making the long run to rigs far at sea with greater security.

One hundred new hurricane observation posts—seven along the Louisiana coast—are being set up by the Weather Bureau.

Last month the year's first hurricane, Alma, with winds up to 50 mph hit the Texas coast in the Brownsville area. No damage was reported to offshore rigs or installations, and the storm blew itself out over the Rio Grande Valley.

Spaced at about 25-mile intervals along the coast, the chain of cooperative hurricane spotting stations extends from Boston to Brownsville, Texas. Louisiana, heart of the country's offshore oil industry will have stations at Morgan City, Cameron, Weeks Island, Rigolets, Hopedac, Buras and Cocodrie.

Unpaid volunteers, usually offshore oil workers and fishermen, will man the stations, making one complete daily reading of weather instruments during regular hurricane season which runs from June 15 to November 15. Number of daily readings will be increased when hurricanes threaten.

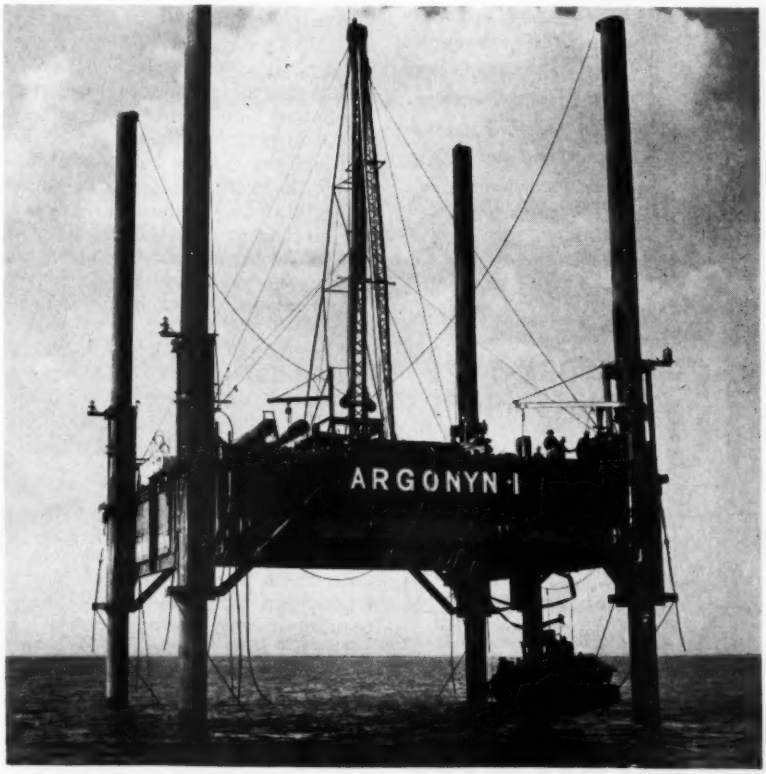
Another storm detecting device now being used by the Weather Bureau consists of automatic reporting buoys. Equipped with radios and spotted at strategic locations throughout the Gulf and Carribean regions, the buoys carry radios that send back changes in tide level.

Not only will the new system serve as hurricane insurance to offshore operators but will give more time to batten down the hatches and clear platforms of personnel before a storm hits. It will afford more precise information on storms like last year's Hurricane Audrey which took nearly 600 lives and damaged offshore equipment alone to the tune of several million dollars.

Helicopter Crash in Gulf Kills Six Marine Employes

A helicopter crash in the Gulf of Mexico off Louisiana early last month claimed the lives of six offshore workers.

Dead are Robert E. White, Floyd J. DeRoche and Benjamin A. Ra-



First wildcat on the Pennsylvania side of Lake Erie is being drilled with this new platform by New York State Natural Gas Corporation of Pittsburgh on a 19,130-acre tract in the southeast corner of the lake. Utilizing a cable tool type drilling rig on the 50-ft. by 58-ft. platform, New York Natural plans to drill to 5780 feet if necessary, hoping to complete the well in 90 days.

News . . .

(Continued from preceding page)

nier, employes of Humble Oil and Refining Company; Dan Middleton, Rotor Aids, Inc.; Owen J. Sandoz, employee of A. M. Landry catering service; and Ed Cheramie, Jr., a welder for Bournes Welding Service.

According to the Civil Aeronautics Administration which investigated the accident, the craft was on a routine flight to an Humble offshore rig in South Timbalier Block 54.

When it passed over the jetties at Bell pass, the pilot reported by radio; however, it never arrived at the rig. Another craft was sent out to investigate and sighted the wrecked helicopter in the water with only its pontoons visible. No survivors were sighted.

A coast guard patrol boat and other craft finally recovered all the bodies after a search that lasted nearly three days.

Alaska

Senate Passes Leasing Bill For Alaska's Inland Waters

A bill to grant the Secretary of the Interior authority to issue leases on Alaska's inland and navigable waters has passed in the Senate.

Indications last month were that the Senate would approve an oil and gas lease plan for Alaska, one of the barriers that might have stood between the territory and its possibilities of obtaining statehood this year.

However, the bill (H. R. 8054) to put Alaska's underwater territories under the Mineral Leasing Act was amended to exclude offshore areas.

A statement that legislation concerning these areas would not be considered until next year came from Sen. Henry M. Jackson, chairman of the territories subcommittee.

Exploration Is on the Rise For Alaska's Bristol Bay

In the Bristol Bay area of Alaska exploration is keeping pace with expanding leasing activity.

Great Basins Petroleum Company, operator for a number of firms with holdings in the bay, has signed an exploration agreement with General Petroleum Corporation. Exploration is being carried out by geophysical crews even now.

The Bristol Bay is partially surrounded by portions of the Alaska peninsula in southwest Alaska.

Borneo

Brunei Shell Orders Barge For Water Up to 120 Ft.

Brunei Shell Petroleum Ltd., operating off the coast of Sarawak, Brunei, and British North Borneo, has ordered a new mobile drilling platform capable of drilling in waters up to 120 ft. deep.

Steel Structures Ltd. of Southampton, England, is building the mobile unit which is scheduled for completion by the end of this year.

Equipped with a National 80 B rotary, it will be capable of drilling to 12,000 ft. Other drilling equipment will include three Paxman diesel motors and E500 Ideal slush pumps.

Brunei Shell will use the rig to explore an area 125 miles long extending off the western coast of Sarawak, Brunei, and North Borneo for distances up to 25 miles. Commercial production has not been discovered for the area as yet. The company's third fixed platform has been set up recently off Labuan Island.

California

California's Fixed Platform Makes Ready for First Well

California's first stationary offshore platform for oil drilling has been positioned in 50 ft. of water off the coast from Santa Barbara.

The platform, made up of a deck 110-ft. square mounted on a tower 75-ft. square and 170-ft high, will be used to drill the first exploratory well this summer on a 5500-acre lease held jointly by Standard Oil Company of California, Western Operations, Inc. and Humble Oil and Refining Company.

Design of the structure permits drilling of up to 24 wells before it is moved.

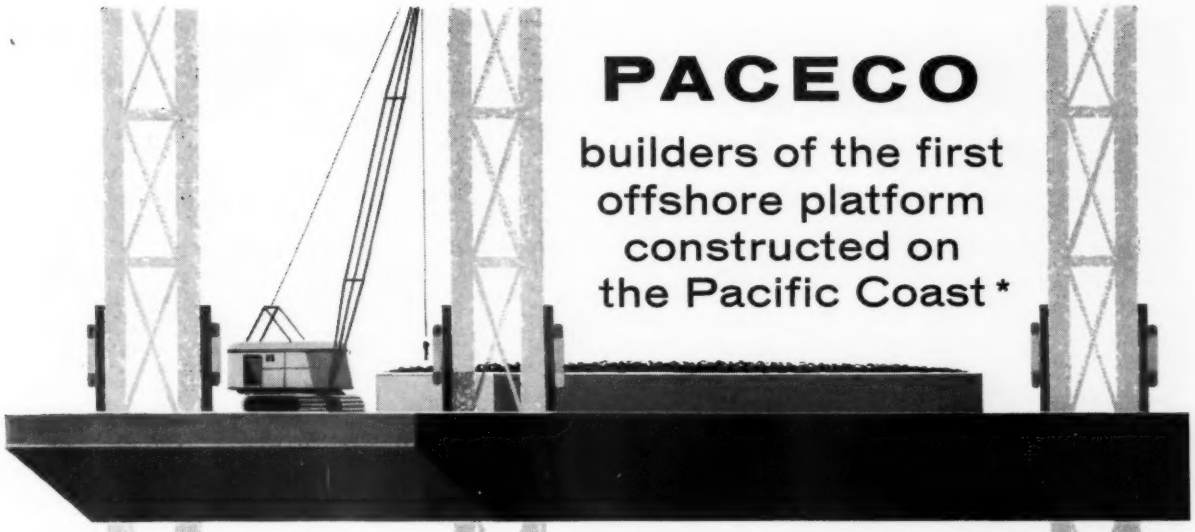
Anchoring the 1000-ton tower to the sea bottom was a complex engineering task which consumed a week.

New Marine Work Platform First Built on West Coast

Launching of one of two sections that will make up the first offshore work platform to be built on the Pacific Coast took place recently at the Alameda Yard of the Pacific Coast Engineering Company.

Designed by the DeLong Corpo-

(Continued on page 26)



PACECO

builders of the first offshore platform constructed on the Pacific Coast *

* Offshore platform built for Hyperion Constructors. Initial use will be to lay concrete pipe five miles out to sea from Santa Monica Bay—the Pacific Ocean outfall for the sewer system of the City of Los Angeles. When this project is completed the PACECO-built platform will be used for offshore oil operations.

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(Continued from page 24)

ration, the platform will be completed by joining two barge-like pontoons—one 190 ft. by 41 ft. by 17 ft. and the other 190 ft. by 60 ft. by 17 ft.—giving overall dimensions of 190 ft. by 125 ft. by 17 ft.

The offshore work platform was built for Hyperion Constructors and will be used to lay fourteen-in. concrete pipe five miles out into the ocean for sewage disposal.

Florida

SCORPION Drilling Ahead On 15,000-Ft. Cay Sal Try

Zapata Offshore Company's Scorpion is drilling ahead on a proposed 15,000-ft. wildcat on Cay Sal bank 135 miles south of Miami, Fla.

One interesting aspect of the operation was the use of aerated sea water as drilling fluid in the coral formations encountered in the upper part of the hole.

While the rig was making hole, about twice as much fluid returned as was injected down the drill stem due to sea water seeping downward through the porous coral.

Operator set 13⅜-in. casing to 4000 ft. where the only trouble encountered was keeping bits in gage due to the coral formation and drilling out from under the casing through a boulder strata.

The wildcat, which is expected to cost about $3 million to drill, is a project of Bahama Gulf Oil Company and Bahama California Oil Company.

Louisiana

Twenty-one Marine Workers Saved After Crewboat Sinks

Twenty-one marine employees of Brown and Root Construction Company were rescued recently after the 51-ft. crewboat in which they were riding went down off Cameron, La.

The men were aboard the twin screw **Ralph O.** between shore and the **L. E. Minor,** Brown and Root's new pipelaying barge located about 45 miles offshore.

After their boat sank in seas that were running about six to eight feet, they remained in the water about an hour and a half before another vessel arrived to effect the rescue.

All aboard the sunken vessel had life jackets, and not a single serious injury was reported.

The shipwreck victims were part of an offshore team engaged in laying a 96,000-ft. undersea pipeline for Tennessee Gas Transmission Company in the East Cameron area.

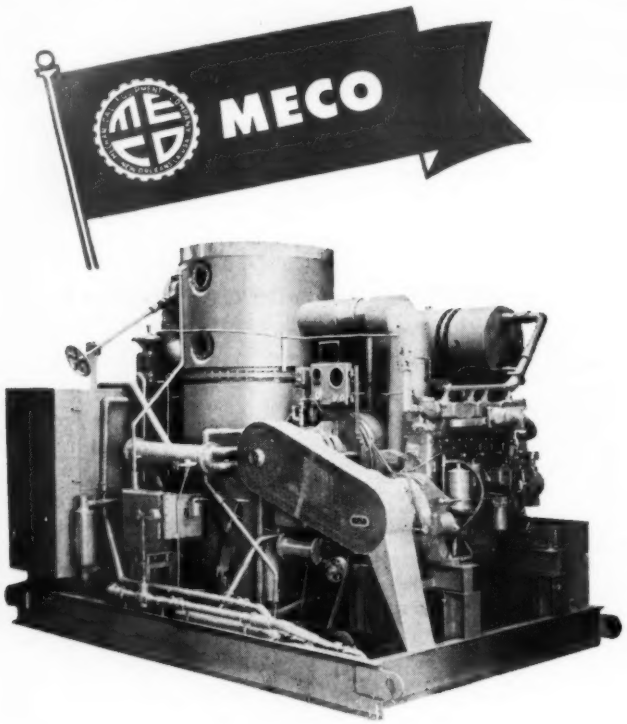
Erection Operations Begun On Offshore Sulphur Plant

Late last month, the mammoth task of erecting the world's first offshore sulphur plant got underway off Grand Isle, La.

Major phase of Freeport Sulphur Company's $30 million project is a "Y" shaped platform nearly a mile long. The world's largest permanent steel platform, it will be a drilling island for mining the sulphur via the Frasch process and will also serve as home for the men who work there.

Sections of the platforms were transported to the site in six barge loads by McDermott Fabricators of Morgan City, La., and were low-

(Continued on page 28)



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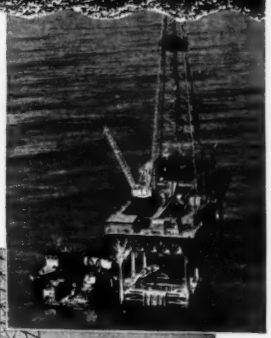

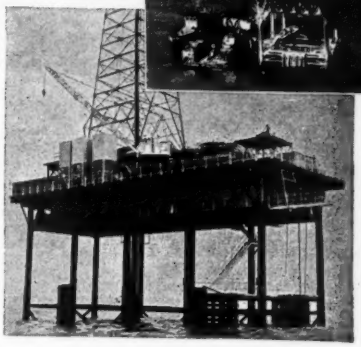

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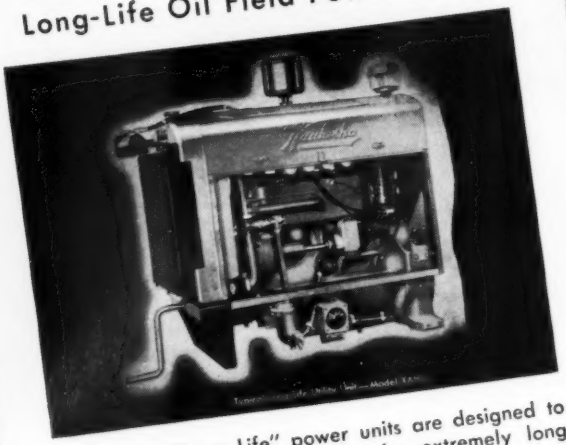

Waukesha "Long Life" power units are designed to supply continuous duty power for extremely long periods without service. These Power Units Feature:

- Clutch Power Take Off, only requiring greasing at six month intervals.
- Low Tension Magneto, providing smooth and trouble free operation.
- Ren Oil Level Regulator and Ren Water Condenser.
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- "Long Life" heavy duty accessory equipment.

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News . . .

(Continued from page 26)

ered into the 50-ft. water by crane. The 200-ft.-long template for the drilling-production platform weighs 437 tons alone.

One of the largest sulphur mines in the world, the Grand Isle deposit was discovered by Humble Oil and Refining Company during oil explorations.

Freeport Sulphur plans to apply funds from the sale of its South Louisiana oil and gas properties, which are valued at up to $75 million, to the mining operation.

For transporting the sulphur to shore, engineers are now studying the possibilities of a seven-mile heated pipeline. Original plans consisted of carrying the molten sulphur to land in "thermos bottle" barges.

Tidelands Revenue in Escrow Declared Off Limits to State

Chairman of the Louisiana State Mineral Board has said that none of the offshore oil royalties held in escrow by the U. S. treasury can be used by the state.

William Helis, Jr., made the statement after a group from the Louisiana House of Representatives had asked Gov. Earl Long to reclaim $50 million of tidelands funds. The move grew out of an effort to avoid raising taxes to meet a teacher pay raise.

Mineral Board Committee Reviewing All State Leases

A committee for the Louisiana State Mineral Board has been conducting a study of all mineral leases granted by the state.

According to William G. Helis, Jr., chairman of the mineral board, the committee's purpose is to make certain all requirements of the leases are complied with.

Louisiana claims a total of 4250 producing oil wells with 90 active leases. Helis said oil companies had been complying with the requests of the fact-finding committee.

Early Morning Fire Damages Phillips Offshore Platfrom

A fire broke out recently during the early morning hours on Phillips Petroleum Company's "Cal. Pass AB" offshore platform destroying a major portion of the flooring along with two welding machines.

Several boats using high pressure

hoses extinguished the blaze before chemical fire fighting equipment arrived.

A rig had just been moved onto the platform for workover operations. The platform which lies three miles offshore from Cameron, La., was erected several years ago.

The welding machines valued at approximately $6500 were owned by Oilfield Welding Service of Cameron.

FPC Approves Firm's Plan To Purchase Gas Reserves

The Federal Power Commission has approved plans by Transcontinental Gas Pipe Line Corporation for purchasing offshore and onshore gas from 39 producers in Louisiana.

In its contract Transcontinental Gas has sewed up gas reserves totaling more than 2 trillion cubic feet. The company will pay 21 to 22 cents per thousand cubic feet and will deliver between 150 million and 200 million cubic feet per day.

Company officials have been awaiting an answer from FPC concerning the application for increasing transmission facilities, part of a $175 million expansion project scheduled for completion during 1959.

Gas Gathering Tax Doubles If New Bill Passes Senate

A bill raising gas gathering tax from one cent to two cents per mcf has passed in the Louisiana House of Representatives.

The bill originally proposed would have hiked the tax to three cents per mcf; however, it was amended. Meant to ward off a threatened cut in teacher pay, the bill was believed to have the support of Governor Earl K. Long as it went up for Senate consideration.

Mexico

ODECO Agrees to Explore Mexican Lease for Pauley

One of the most aggressive operators in the new offshore farmout trend has signed a long-term agreement to explore for oil off the coast of Mexico.

Ocean Drilling and Exploration Company, New Orleans, will explore and develop an 180-mile stretch of submerged lands between Barra de Paso Real and Barra de Santacamopan.

In return it will receive from the holder of the lease, Pauley Pan American Petroleum Company, half of that firm's share of the reimbursement benefits as well as its part of the term royalty which totals 18¼ percent for all firms besides Petroleos Mexicano.

Pauley obtained the lease through an agreement with Petroleos Mexicano. Any production developed will return to Pemex after 1974.

Odeco is sending its new drilling barge, the **El Dorado,** to the Gulf of Campeche to begin drilling operations. It must invest at least a half million dollars in the venture.

Texas

Offshore Insurance Rates To Apply to Inland Drilling

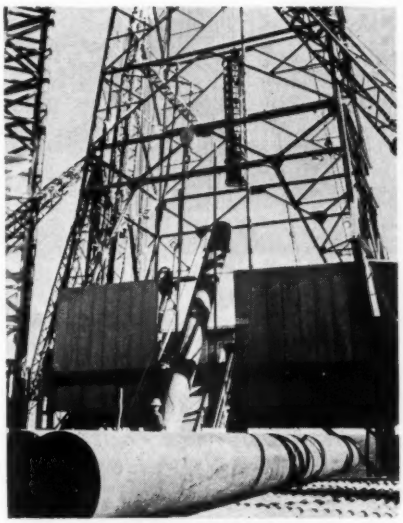
Rates on workmen's compensation insurance for offshore drilling operations were lowered July 1 from 75 percent over land rates to 60 percent above land rates.

On the other hand, the State Board of Insurance of Texas ruled that all types of inland overwater drilling operations would be subject to the same rules as marine areas.

Formerly, drilling activities in such areas as bays and lagoons had been

(Continued on Page 72)

DRIVING CONDUCTOR PIPE - - ?
PIPE PILES - - ?



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INDUSTRY ITEMS . . . . . In the News

Sullivan

Royds

Continental Oil Co. Appoints 2 New Administrative V-P's

George M. Sullivan and James S. Royds, both of Houston, have been elected administrative vice presidents of Continental Oil Company. Both men will retain their present positions also.

It has also been announced that J. J. Dorgan, Houston, has been elected treasurer of Continental.

Sullivan, who holds the office of general manager of marketing for Conoco, joined the company in 1925 as an order clerk at Butte, Mont. He came to Houston to accept his present job in 1953.

Royds, who is general manager of exploration, became affiliated with Conoco in 1939 at Denver as an assistant geologist.

He served for a time in Cairo, Egypt, as exploration manager for Sahara Petroleum Company, a Conoco subsidiary, before coming to Houston in 1955 as assistant manager of the foreign department. He was promoted to general manager of the exploration department in 1957.

Los Angeles D & D Club Sees Oil Products Demonstration

Miss Louise Schock, Shell Oil Company, was speaker at a May meeting of the Los Angeles Desk & Derrick Club.

She introduced the "magic suitcase," showing everyday products made from petroleum, such as cloth that can be colored red, white, and blue, in one bowl of dye; nonbreakable squeeze bottles; and flame-resistant fabrics that never need pressing.

San Francisco D & D Club Hears Research Executive

A. L. Lyman, president and director of California Research Corporation, subsidiary of Standard Oil Company of California, addressed the San Francisco Desk & Derrick Club recently on "Research in the Petroleum Industry."

Nuclear Techniques Featured At Oil Recovery Conference

"A Century of Texas Oil, 1875-1975," was the theme of the Texas Petroleum Research Committee's eleventh annual oil recovery conference held in Austin, Texas, and attended by more than 600 industry officials.

Texas' Governor Price Daniel welcomed oilmen at the opening session. Other speakers at the initial session included Texas Railroad Commissioner Olin Culberson and Charles Warner, Houston petroleum consultant.

Calco Appoints Mendenhall To New Executive Position

W. R. Mendenhall has been named to a newly-established executive position in the marketing department of the California Company.

Mendenhall

Formerly special representative for California Crude Sales Company, a Calco subsidiary, Mendenhall will be assistant manager of the crude oil, natural gas, liquefied petroleum gas and natural gasoline sales division.

Mendenhall will be headquartered in New Orleans, and his activities will cover an area stretching from the Rocky Mountains to the Gulf of Mexico.

This year he will observe 20 years of service with Standard Oil Company of California affiliates. He is a member of the American Institute of Chemical Engineers and American Chemical Society.

The Texas Company Selects New Senior Vice President

J. Howard Rambin, Jr., vice president of The Texas Company's domestic producing department, has been elected a senior vice president of the company.

A. W. Baucum has replaced Rambin in the domestic producing department.

Rambin assumed duties as vice president in charge of domestic producing last year. He joined Texaco one year after graduating from Louisiana State University in 1934.

Baucum, assistant to the president from 1954 to 1956, had been serving as general manager of the foreign producing department for the Western Hemisphere and West Africa.

Gulf Oil Gets Archie Gray As Senior Vice President

Gulf Oil Corporation's Archie D. Gray, former vice president and general counsel, has been named a senior vice president.

Three new administrative vice presidents announced by the board of directors are Joseph E. Bounds, in the tax department; I. G. Davis, production; and B. R. Dorsey, manufacturing.

Gray attended Texas A & M College and the University of Texas, becoming affiliated with Gulf's law department in Houston in 1935.

Members Announced for API's Committee on Public Affairs

Thomas W. Phelps has been named chairman of a new committee on public affairs established by the American Petroleum Institute. Phelps is assistant to the chairman of the Board of Directors for Socony Mobil Oil Company, New York.

Committee members from the Gulf Coast region include Morgan J. Davis, president and director for Phillips Petroleum Company, Houston, Texas and Lloyd F. Thanhouser, vice president and general counsel for Continental Oil Company, Houston, Texas.

The new committee is expected to take over activities of the American Petroleum Industries Committee and the Oil Information Committee by September 1 when the latter groups are dissolved.

Objectives of the new committee, according to API President Frank M. Porter, are:

1) To stimulate the timely dissemination of information concerning the petroleum industry so that public opinion and decisions relating to it will be founded in fact.

2) To develop a climate in which a privately-managed and competitive petroleum industry can best serve the American people and

(Continued on next page)

Industry Items . . .

(Continued from preceding page)

strengthen the national economy.

3) To encourage acceptance by all those engaged in the petroleum industry of their responsibility to assist government at all levels in matters of public interest affecting the industry and its customers.

Atlantic Refining Names Frick Manager for South Louisiana

Thomas C. Frick, former manager of the domestic production division of Atlantic Refining Company, has been named manager for the company's South Louisiana region.

Frick

He succeeds William B. Moore, who was recently named manager of the domestic exploration division.

Succeeding Frick as manager of the domestic production division is Forrest W. Turner, former operations manager in the Dallas-eastern region.

Frick, who graduated from the University of Tulsa, joined Atlantic in 1941. Turner became affiliated with the company in 1934 following his graduation from Oklahoma A & M College.

Robert Tucker Gets Position With Pan American Branch

Recently formed Pan American International Oil Co. of New York has announced the appointment of Robert E. Tucker, Calgary, Alberta, as purchasing agent.

Tucker was former division purchasing agent of Pan American Petroleum Corporation, parent firm of Pan American International. Pan American Petroleum is in turn a subsidiary of Standard Oil Company of Indiana.

Pan American International, which operates in the Eastern Hemisphere, recently obtained a 6177-sq.-mi. concession offshore from Iran in the Persian Gulf with a record-breaking 75-25 profit split.

The new purchasing agent began with Pan American in 1940. He served at Tulsa in the general office accounting department from 1947 to 1950 and became division purchasing agent at Calgary in 1954.

Professor to Help Colombia Build Conservation Division

The Colombian government recently invited Dr. George H. Fancher, chairman of the University of Texas petroleum engineering department, to help organize a department of conservation within the Colombian ministry of mines and petroleum.

Fancher

In addition, Dr. Fancher is to aid the ministry in formulating a national policy for petroleum conservation and to suggest specific studies of Colombian oil fields.

Dr. Fancher also represented the Colombian republic as official observer at the meeting of the Interstate Oil Compact Commission in Salt Lake City June 23-25.

Director of Texas Petroleum Research Committee, his chief research interest is secondary recovery of oil.

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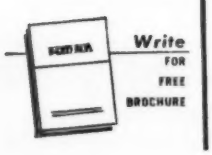

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Many pitfalls involved in . . .

Contract Drilling Overseas

by HARRY H. (SAM) MADLEY
Santa Fe Drilling Company, Whittier, California

CONTRACTORS welcome the problems and a chance to tackle them. If there were no problems connected with overseas drilling the oil companies would certainly not require our services. Nor would they continue with our services if we, as contractors, did not work out these problems with a saving in both money and time to the customer.

The proof that contractors are really doing this job is a matter of record. As in domestic operations, each year contractors supply a larger percentage of rig requirements in the foreign field.

Problems and situations facing the contractor working overseas are similar in nature to those found in the States. The difference is mainly one of degree.

Communications . . . To be initiated in foreign work is quite an experience, fascinating and bewildering at the same time. One soon learns that time schedules and planning are of the utmost importance. It takes much longer to make your plans and transform them into working operations. A complete new set of rules are required with operations partially directed by remote control, so to speak. Communications take on a broader significance. No longer is phone or direct communication always available with the home office; correspondence is generally by airmail and cablegram. Hurried trips to the home office for consultation are possible, but time and added expense usually rule this out. You can well imagine the frustration and complications which can arise when writing or calling the home office to settle matters on budgets, new equipment or personnel.

Also, a minimum of two weeks is normally required for any exchange of ideas through the mail. Faster answers require that messages be delivered by radio and cable. This method of communication is fine, but cablegrams are expensive and economy dictates a conservation of words. So quite soon it is apparent that one cannot control all the decisions from the home office.

Personnel . . . This aspect of foreign operations must be accepted by the contractor, and he must delegate more responsibility to local managers, superintendents, foremen, and drillers. The measure of his success in contracting will depend, therefore, on the caliber of personnel used to fill each overseas job. There has never been a shortage of good men for foreign drilling. However, transforming such good men into effective foreign employees is sometimes a problem, and even pretty much a gamble.

Now, why do good oil workers seek and accept foreign employment? Two enticements are better pay and guaranteed pay checks, and these are sound reasons. But, on the other hand, wishful thinking that foreign duty is romantic and an escape from various state-side problems, usually ends the first night one arrives on a foreign location. The shock is not so bad if the man's family is to join him soon, but when he faces twelve months or more of service alone in a strange place, he begins to question the wisdom of his undertaking. So, many of them either fail to perform up to par or hurry back to the good old U. S. This, of course, costs both the man and the company money and disturbs operations.

To minimize misunderstandings and dissatisfaction, job applicants are thoroughly checked and interviewed; and whenever possible, wives are also brought into the interview so the job acceptance will be made with all known facts taken into consideration. Every effort must be made to encourage the applicant to make the decision to turn down the job while here in the States, rather than in the foreign country of his assignment. There will always be a certain percentage of wrong decisions, however, as it is impossible for a man always to know how he will react to new environments, and, even more important, the separation from his family ties.

It is interesting to note that once a man has served a contract overseas, the chances of him failing to complete a second are a fraction of what they were the first time. You can realize, therefore, that after being in operation for several years, a contractor has developed a roster of dependable personnel and has a rather complete knowledge of their capabilities and past performance. From this reservoir, men can be assigned to specific jobs which allow the greatest use of their talents.

Most of the contractor's foreign personnel are the Nationals of the particular land in which he is working, and problems of any consequence are usually few and far between. Generally speaking, wages are good for the National help, and they receive just treatment. They are mostly employed as derrickmen, rotary helpers, mechanic's helpers, truck drivers, laborers, etc. Although much could be related about experiences and minor problems in handling this help, it is enough to say that without exception, and regardless of size, skin color, or language, these Nationals perform well and soon develop into loyal company men.

Equipment . . . Until a few years ago, the contractor's chief responsibility was to furnish only the labor, with the oil companies supplying the drilling equipment. However, this type of so-called labor contract is rapidly disappearing. Today the contractor is more likely to be asked to supply men, drilling equipment, camp, and trucks, to an extent approaching a turn-key operation.

Drilling equipment is most often identical to domestic machinery, although there are notable exceptions, such as the helicopter rigs now in operation and in the planning stage. The contractor's investment in equipment required for foreign work is greatly increased by the need of equipment on hand for cementing, fishing, coring, testing, logging, running casing, etc., and, of course, a large stock of spare parts is necessary for all equipment. The drilling operation must be self-sufficient. Generally there are no outside serv-

(Continued on page 36)

From a paper presented at the Spring Meeting of the Pacific Coast District, Division of Production, American Petroleum Institute, Los Angeles, California, May 22 and 23, 1958.

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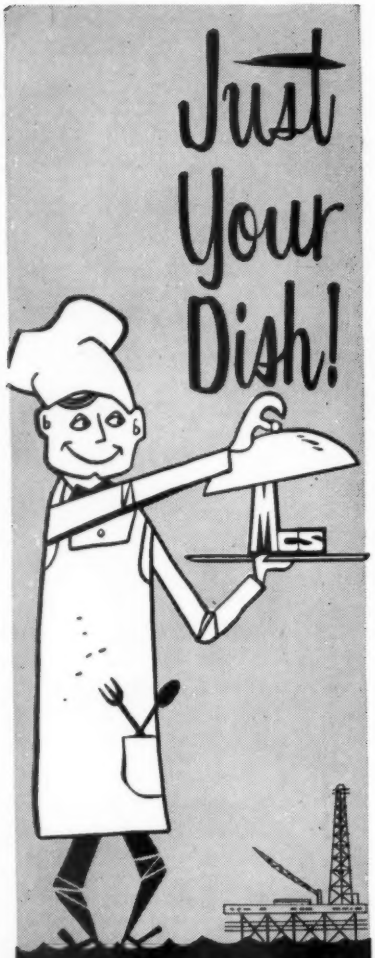

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Contract Drilling . . .

(Continued from page 34)

ice companies or specialists available to supply equipment. The job must be done with the men and tools supplied with the rig.

Amount of investment . . . Drilling programs in virgin areas usually call for deep exploratory wildcats which require the most costly equipment. The rig and accessories will weigh well over one thousand tons. This is one of several reasons why lighter weight equipment and drill strings are receiving considerable attention today.

The oil companies are primarily interested in locating and producing oil. Therefore, in addition to qualified personnel, the contractor is called upon to furnish the complete drilling setup. One thousand plus tons of drilling machinery cost a stack of greenbacks; maybe even a pile of dollar bills as high as a derrick. This creates, of course, the most important factor in contracting, that is, access to money for investment in equipment to make a reasonable profit.

Such rig investment is considerably higher than in the States, in fact some 50 percent to 100 percent higher, depending on factors like the size of the rig, land or water operation, and the remoteness of location. Also, as mentioned before, the current trend requires the contractor to assume a greater share in the overall operation, such undertakings to include supplying camps and building access roads and locations. All of this adds to the contractor's investment and to the amount of cash required just to maintain each operation.

Don't misunderstand me, the contractor can expect to be reimbursed fairly for both the investment and his efforts, but the point is that a million dollars or more is usually required to start such a foreign operation. It shouldn't be necessary to explain why the availability of a million dollars can be a problem to any contractor starting a new operation.

Competition . . . One must be reminded too that along with this heavy investment the contractor is assuming the obligation of keeping his million dollar investment working. This may not have weighed so heavily on his mind two or three years ago but today it will have a great bearing on his decisions. The slowdown in drilling is not restricted to domestic operations. Stop to consider how offshore contractors in the Gulf must be feeling at this time with their new multi-million dollar offshore rigs going begging for work.

Added to this sobering outlook, is growing competition overseas within the ranks, for the number of contractors has multiplied in recent years and there are many others waiting for an opportunity to get initiated.

The U. S. contractor is receiving strong competition from several European contractors, particularly in the Mediterranean area where high wages paid to U. S. personnel can be quite a disadvantage when bidding against competition paying European wage scales.

So, along with this large investment goes the responsibility of keeping the equipment busy. Increased competition and the fact that foreign jobs are often oceans apart are important factors in bidding also. Here in the States we are accustomed to long moves, possibly from one state to another, but in foreign work the next job may involve moving from one side of the earth to the other requiring boxing and ocean shipment. The contractor hopes his idle equipment will fit the next available job with regard to drilling depth, casing program, camp layout, trucking equipment, and other special tools; that his price will be competitive; and that shipping schedules will permit him to meet the required spud date.

Transportation of equipment . . . Many interesting tales can be told of the problems encountered in moving equipment to overseas locations. To mention just a few—barging equipment ashore and across rivers, crossing African desert sand dunes, crossing ancient bridges with loads for which they were never designed, using roads made impassable by torrential rains, floods, etc. Roads suitable for heavy trucking are so poor and so costly that in several areas expensive helicopters are being used or considered to reduce exploration costs.

Several months can elapse from the time the contract is awarded until drilling operations are commenced, and even before all this can happen, the contractor has much to learn about the export business. He will need to acquaint himself with the many details of boxing and ocean freight. He will learn about export and import licenses, re-export permits, import duties, ocean risk and expropriation insur-

(Continued on page 51)

Jacket-type structure of concrete cylinder piles supports Magnolia Petroleum Company tank battery. Structures are located 30 miles off the coast of Louisiana in 40-ft. water near Eugene Island Block 126 field. Piles, 54-in. diameter, are cross-braced with coated steel pipe.

Varied offshore structures use . . .

Concrete Pile Supports

Prestressed concrete piles give economy plus corrosion protection to numerous offshore platforms in Lake Maracaibo and the Gulf of Mexico

BECAUSE of their strength and corrosion resistance, prestressed concrete cylinder piles continue to gain popularity as foundations for offshore structures. They are easy to handle and drive—and their section moduli permit them to carry large loads without need of expensive lateral bracing.

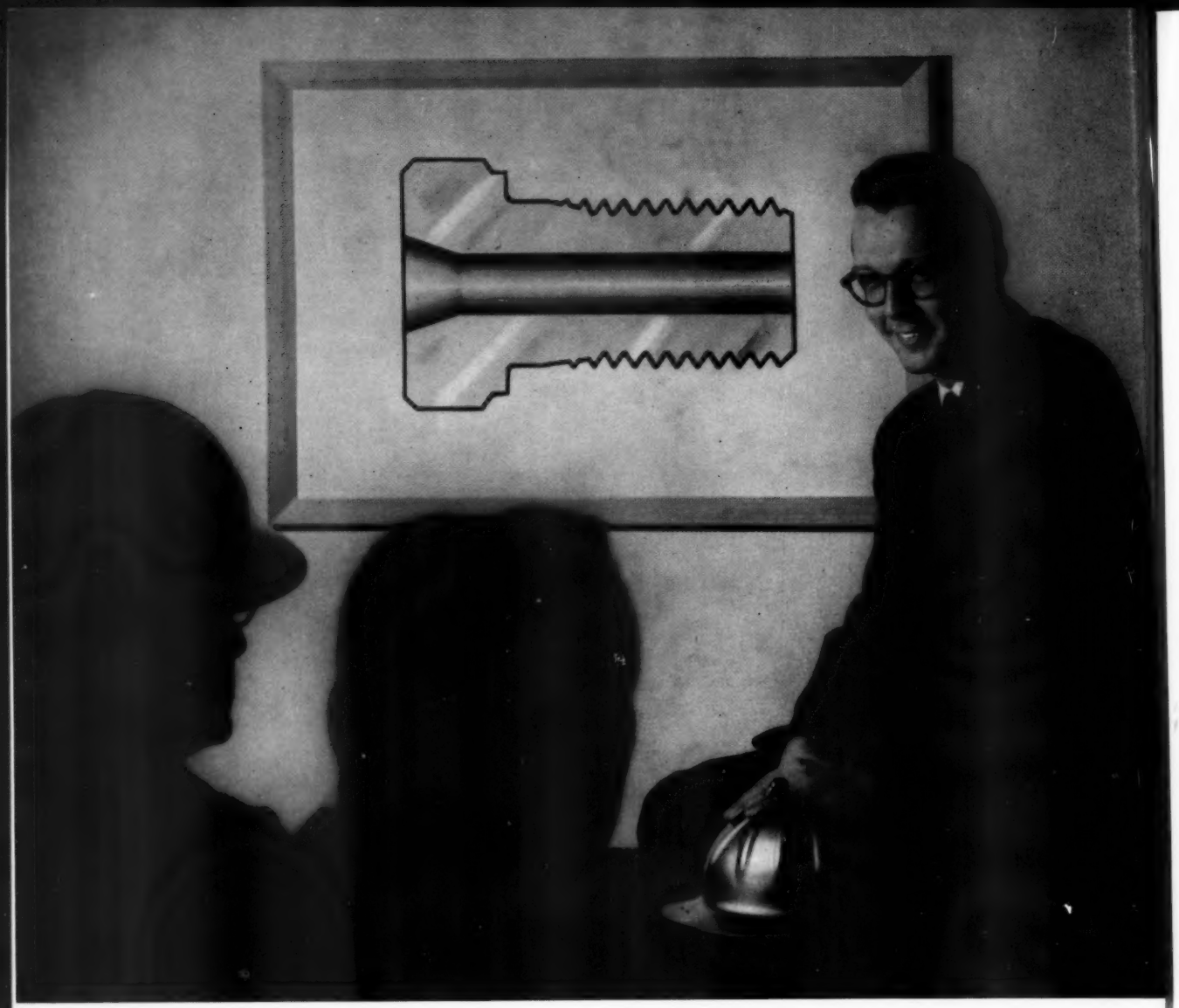
Cylinder piles have been used extensively to support structures in the Gulf of Mexico, Lake Maracaibo, Venezuela, and the Gulf of Paria off Trinidad. Structures ranging from simple derrick bases to complex oil production and storage platforms are supported on the versatile piles in water up to 100 ft. deep.

Floating equipment completes construction of 36-well drilling platform for Texas Trinidad Company in Gulf of Paria, Trinidad. Supported on about 80 cylinder piles, structure will mount a Lee C. Moore derrick capable of drilling six wells from each of six positions.

Greatest use of concrete piles has been in Lake Maracaibo. Here, where the highly corrosive water deteriorates steel structures in a few years, the concrete cylinder pile has gained fast acceptance. More than eighty cylinder-pile structures have been built there in less than two years, and despite current slackening in the oil industry, at least another seventy are under contract.

Recently Mene Grande Oil Company, a subsidiary of Gulf Oil Corporation, awarded a large contract to Raymond-Brown & Root, C. A., pioneers in the cylinder pile field, calling for the construction of fifty concrete deep-water drilling platforms for central Lake Maracaibo. Work has already started at Raymond-Brown & Root's new $5 million concrete pile manufacturing plant on the shores of Lake Maracaibo, and a production schedule of

(Continued on page 40)



THIS IS ONE WAY TO SAVE MONEY ON PRODUCTION COSTS

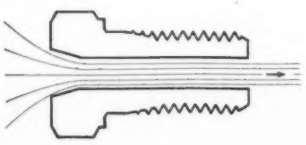
Cameron's Bob Le Rouax, Senior Engineer, Answers Questions About the New "Honest John" Choke Bean.

MR. LE ROUAX:
The new Cameron "Honest John" bean holds metering accuracy much longer than conventional beans. This means fewer changes and greater economy.

QUESTION:
How does this new "Honest John" bean differ from old style beans?

MR. LE ROUAX:
The tapered entrance in the "Honest John" produces a flow pattern which does not buck abrasives with a sharp edge as in conventional beans.

QUESTION:
Isn't a sharp edge on the bean necessary for metering accuracy?



MR. LE ROUAX:
No. There are many ways to get accuracy. For a bean with a sharp edged entry, of course, a sharp edge is essential; however, on most wells the edge erodes quickly, and the bean loses its accuracy. Cameron spent two years developing and testing the "Honest John." The result is an orifice design which is accurate, but more important, it retains its accuracy much longer than conventional beans.

QUESTION:
What are these new beans made of?

MR. LE ROUAX:
They are available in alloy or stainless steel. These fine grain steels are made in our own melt

shop by the most modern methods. With closely controlled heat treating they become extremely hard and tough.

QUESTION:

Do sizes compare with old style beans?

MR. LE ROUAX:

No. There are several differences. Size for size the "Honest John" produces 10% to 12% more fluid than conventional beans. In the smaller sizes, from 2/64 to 12/64, each diameter increase gives a 15% flow increase over the preceding size. This means lower field inventories and greater flexibility in range. The maximum "Honest John" bore diameter is 40/64—almost three times as much flow capacity as conventional insert type beans. The generous cross section eliminates the "Dutchman" problem.

QUESTION:

How much instruction will I need to change from the old system?

MR. LE ROUAX:

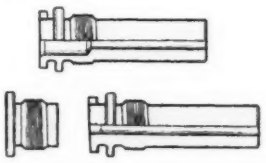
None. As an aid, Cameron has available for the asking slide rules and nomographs for selecting bean size where oil and gas ratio and tubing head pressures are known. We believe that any one actively engaged in production control will welcome the reduced effort, the convenience and economy of this new development.

QUESTION:

Sounds great, but several of my trees are not Cameron products? What about these?

MR. LE ROUAX:

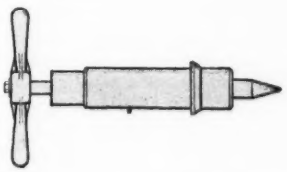
I'm glad you mentioned that because the "Honest John" along with our stainless steel adapters will fit almost any set-up in use today



Now a description of other components in our coordinated production control equipment group. In addition to the "Honest John" bean, Cameron has also developed the "Big John," a six inch bean, with the same basic design refinements. The "Big John" fits Cameron "H2" Chokes and Cameron Flow Controllers.

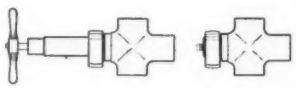
The "Big John" combination bean and seat is a needle valve seat and positive choke which saves time and money on wells when its use is desired.

As mentioned earlier, the new Bean Adapters permit use of the "Honest John" with existing Cameron equipment as well as most competitive equipment. Their careful manufacture from corrosion-resistant stainless steel insures years of trouble-free performance.



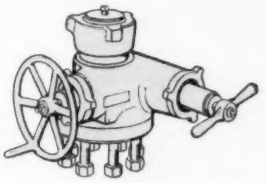
Cameron's new "H2" adjustable choke features a pre-loaded packing design which greatly increases the life of the packing, protects the needle threads from contamination, corrosion and galling, and makes the choke considerably easier to operate.

The "H2" adjustable choke needles and seats are furnished in stainless steel as standard equipment. Hardfaced needles and seats are also available on request.



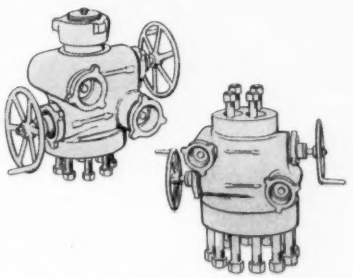
An "H2" adjustable choke can be converted to a positive choke by removing the adjustable seat and choke bonnet and substituting a "BJ" bean or "HJ" bean and adapter and a blanking plug.

In addition to the versatile Type "H2" production choke, Cameron is now offering new single, double, and dual flow controllers. These flow controllers feature a new pressure-balanced valve with a cast Stellite® alloy seat. Instead of simply hardfacing the seat, the seat ring is cast, precision ground and polished. This procedure insures a homogeneous material at the point of contact and positively does away with leaks. The seat and gate engage directly. Wear caused by the grinding effect of rotating engagements is eliminated.



For easy operation the stem is fitted with bearings which may be quickly replaced in the field. Packing in the "HJ" valve is adjustable.

In closely controlled laboratory tests drilling mud with 5% sand was circulated through these "HJ" valves at 150 psi flowing pressure and 1000 psi closed in pressure. The valves were opened and closed 1000 times. Pressures were then elevated to 10,000 psi without a single valve failure.



Cameron "HJ" Flow Control Valves may also be installed in "HD" flow control bodies and "H" choke bodies.

Our goal has always been increased safety, convenience and economy for the users of Cameron equipment. Today more than ever we are happy to help producers everywhere cut costs with these new designs.

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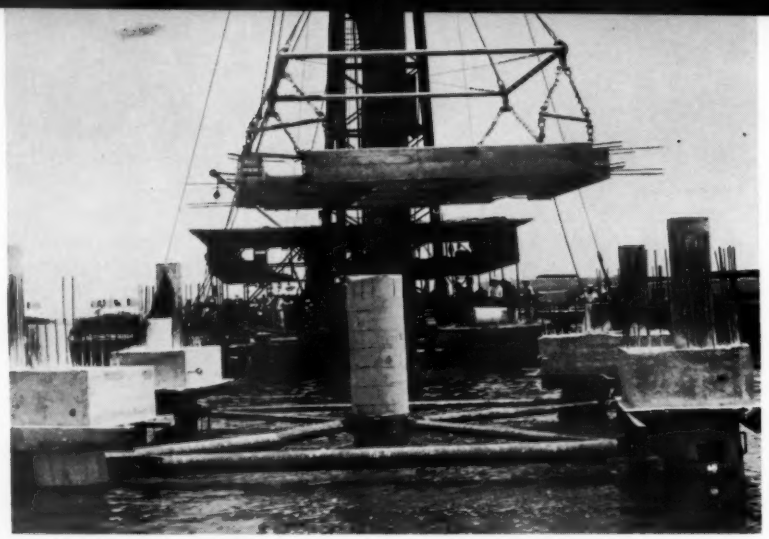
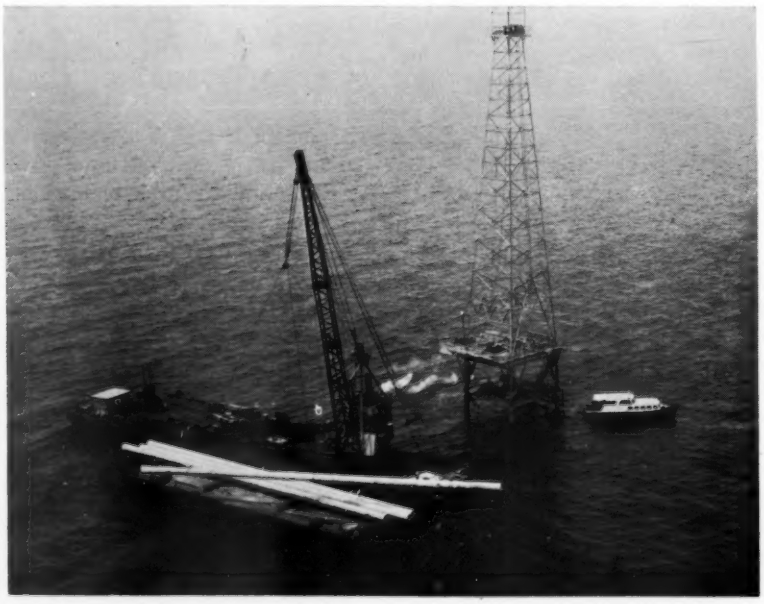


Precast concrete deck frame weighing 60 tons is placed on cylinder pile caps of Lake Maracaibo derrick base. Precasting of base components cuts installation time.

Derrick base consists of nine 36-in. pile supports, four plumb, four inclined, and a center pile for conductor pipe. Precast concrete platform is then set atop the pile caps.



Simplest pile structure is the derrick base, only large enough for the mast. Here derrick hoists cylinder pile from supply barge and positions it for driving for derrick base extension.

Concrete Piles . . .

(Continued from page 37)

one platform per week has been announced.

This contract will bring to 159 the total number of offshore structures placed in Lake Maracaibo's deep water by R-B-R since the Venezuelan government released new concessions in the lake two years ago. Twenty-five platforms have already been built for Mene Grande under previous contracts.

Good reasons for concrete's special popularity in Lake Maracaibo include depth of water, and absence of extremely high winds. Concrete is inexpensive and non-corrosive. Structures can be designed for maximum waves of only nine feet, instead of the 40-ft. waves encountered in the shallower and more exposed areas of the Gulf of Mexico. This design criterion permits construction of deep-water Maracaibo derrick bases on a relatively small number of support piles—and without lateral bracing.

Only disadvantages to the use of concrete pile structures is the length of time it takes to install them (several weeks) and the special equipment needed for installation. But new larger piles now being manufactured and new installation techniques being tested show promise of cutting installation time to a few days.

Pile design . . . The cylinder pile is a hollow unit, made of centrifugally-cast sections strung together and tensioned by special cables into a high-strength structure. Generally 36 or 54 in. in diameter, the pile is handled and installed by large floating derricks equipped with special piledriving frames and hammers.

Derrick base . . . Simplest concrete pile structure built in Lake Maracaibo is the derrick base. Designed for water depths up to 100 ft., these bases consist generally of nine 36-in. piles, four plumb and four inclined to support the structure, and a center pile to serve as an oil conductor pipe.

Flow station . . . Another type of Lake Maracaibo structure built on cylinder piles is the flow station. It rests on 16 cylinder piles, eight plumb and eight inclined. Five of these have already been built in the lake.

Since the Venezuelan government released deep-water concessions two years ago, concrete structures have been built for Mene Grande Oil Co., Phillips Petroleum Company, San Jacinto Venezulano, C. A., Venezuelan Sun Oil Company, Superior

(Continued on page 52)

Pile of jacket steel lost to corrosion.

Important Methods of . . .

Corrosion Control In Offshore Operations

by O. L. GROSZ
The California Company, Harvey, Louisiana

Part II

Atmospheric Area . . . Examination of the superstructure above the splash or tidal area revealed amazing results from the original coating system used. Very little deterioration was noted with only minor pitting and occasional areas showing scattered maximum depth pits of approximately 3/32 of an inch.

The original coating system, which is a zinc silicate type material was found to be intact in most areas. Pipe braces and weld areas were found to be in exceptionally good condition, and only the upper most structural members and the under side and top side of the deck were damaged.

These results were most gratifying and unexpected since the same coating system had failed when used on two other structures. In fact, the manufacturer of the material has withdrawn the system from the open market because it was so unpredictable under these conditions.

This definitely indicates that protective coatings on metal surfaces in the atmospheric area will minimize corrosion losses when and if the materials are applied with proper surface preparation, handling procedure and follow up maintenance.

Conclusions and Protective Procedures . . . From the results of this survey and assuming that the data is representative of the average corrosion conditions in the Gulf of Mexico the following conclusions are made;

1. The data presented herein, confirms and supplements the information presented in other published reports and similar surveys.

2. While the atmospheric area of this structure was in better condition than anticipated, it is concluded that no final decision can be drawn from the coating system applied to this structure. As pointed out in this report, this structure was concurrently installed in Bay Marchand Field with B&C Structures and employed the same coating system. These other two structures ("B" & "C") have been periodically maintained. Other similar structures with a variety of coating type systems have also deteriorated at a comparable rate as the "B" and "C" structures and have required or need periodic maintenance.

There may be several engineering hypotheses drawn indicating why this particular application on this structure held up as well as it did.

a) Since only one well was drilled from this structure over a relatively short period of time, the caustic drilling muds and mechanical damage was held to a minimum. Caustic muds can be most detrimental to the zinc silicate type coatings.

b) A well planned and properly applied shipyard application was received. This fact could have been influenced by weather conditions and material mixing.

Atmospheric corrosion in this case was alleviated, indicating that protective coatings and techniques are engineering tools when used properly. When so used, a definite projected range of effectiveness and economy can be achieved. It is important to point out areas of weakness in the coating protection and suggest that these be considered in future design work when possible. If areas of poor design are not corrected, the application of the best possible coating will afford little or no protection. The design criteria, therefore, should include the maximum effort to minimize surfaces which are exposed to corrosion or which trap moisture. This is particularly important in the splash or tidal area and inaccessible areas, i.e., back-to-back shapes, angles, beams and skip welding should be eliminated where and when possible. This, plus the proper use and application of the protective coating, will bring about increased divi-

(Continued on next page)

Flare pile jacket showing complete and scattered pitting. Note complete deterioration at water line (lower right).

This discussion on corrosion was presented by Mr. O. L. Grosz at the South Central Regional Meeting, National Association of Corrosion Engineers, Oklahoma City, Oklahoma, October 1-4, 1957. Mr. Grosz is a member of that association.

Information in the paper is also included in a thesis submitted to the department of Mechanical Engineering and the Committee on Graduate Study and Research at the University of Wyoming in partial fulfillment of the requirements for the degree of Mechanical Engineering, Laramie, Wyoming, 1957.

NOTE: Statements and opinions advanced in this paper are individual expressions of the author and not necessarily those of The California Company.

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Corrosion Control . . .

(Continued from preceding page)

dends in protection and future maintenance.

3. While the submerged area is highly corrosive, with great pit depth occurring just below the water level, similar studies and histories show that complete protection of this area can be achieved by the proper application of cathodic protection.

Cathodic protection was first introduced by Sir Humphry Davy in 1824 and is a proven technique for protection against electrolic corrosion in sea water, dependent primarily, however, on proper design and maintenance.

Several methods are available to apply cathodic protection. The majority of structures in the Gulf of Mexico are being protected with expendable type magnesium anode installations. Most of the structures in the Bay Marchand Field, however, are protected by rectifiers and graphite anode beds or holders.

The costs for the rectifier type installation have varied from $.15 to $.18 per square foot for the initial installation and the operating costs are estimated to be from $.06 to $.10 per square foot per year based on a 10 year period, depending on power cost, storm damage, and other intangibles. The cost for expendable type magnesium anodes have varied from $.06 to $.08 per square foot for the initial installation and will require a replacement cost of approximately $.05 to $.07 per square foot every 2½ to 3 years, depending primarily on storm damage.

Both methods of cathodic protection are proven criteria and should be utilized. The choice of methods should be based on the local conditions, current requirements and availability of power.

4. There is little doubt that this structure has remained standing in in the Gulf of Mexico the last few years only by the virtue of the piling. The jacket at the water line was for all structural purposes disintegrated.

The two most successful methods to date for combating this high rate of deterioration are monel sheathing and double plating.

Double plating has been used extensively on small units, but the additional weight hampers its use on large platforms. Also the lack of adequate data about corrosion rates has made this method questionable. With the use of double plating the maximum penetration rate must be used and not the average corrosion rate. The initial cost of this type installation will average approximately $.30 per pound of steel.

Jacket columns subjected to the outside wave and mechanical damage show total deterioration. Several columns in this area collapsed when the pile was pulled.

Monel sheathing installed on initial fabrication has proved to be a practical method. Weight is decreased, and monel will withstand sea-water-corrosion. It is subjected to mechanical damage, however, and offshore repair is expensive. The initial cost of installation has averaged from $4.80 to $5.25 per square foot depending on the cost and gauge of the monel sheathing.

There is some question as to how much corrosion can or does take place behind the sheathing if and when the sheet is torn or penetrated. This has not been conclusively determined, but it is felt to be greatly reduced depending of course on the size of the damaged area. This can be correlated to this study, as the piling were found to be in good shape opposite the deteriorated area of the jackets (structure and flare pile). This was undoubtedly due to the fact that the water trapped in these areas becomes stagnant and dissolved oxygen is dissipated.

Several operators are testing other special materials but nothing conclusive has been reported. Wrought iron has been used on several units, but placing this material in areas of mechanical damage is in opposition to its corrosion-by-product protection for which it is noted.

5. Overlooking corrosion protection can be a critical mistake on any structure. It may become necessary to live with offshore drilling platforms for many years more than anticipated initially. If a little extra time, care and materials are used to guard against corrosion, many dollars now wasted will be converted into profits.

Combination rig handles . . .

Offshore Drilling, Producing and Storage

by DR. SABURO OKABE
President of Toa Harbor Works Company
Former Professor of Tokyo University

OFFSHORE oil field development is one of the main topics of interest to the petroleum world. A number of various types of drilling rigs have been devised and actually put into operation throughout the world. In the exploitation of the offshore oil field, however, there are numerous difficulties. Among the more severe ones are strong winds and swell on the sea caused by typhoon and monsoon, and scouring by force of waves at the bottom of the sea.

The writer, a technical expert in the field of harbor improvement, has studied these problems carefully over the past 35 years of harbor and oil storage tank construction work in Japan, China and Sumatra. Recently he has devised a unique offshore drilling rig which in addition to drilling wells provides submarine oil tanks capable of storing as much as 500,000 barrels of oil. This unit will be able to operate in from 66-ft. to 165-ft. waters. The writer has applied for patents on this unit design in Japan, U. S. A., England, West Germany and Italy.

The actual rig design described in this paper and pictured in the accompanying drawings is capable of being towed across the ocean and drilling a well and producing and storing up to 215,000 barrels of oil at an offshore site in up to 100 ft. of water. For increased capacities dimensions of design members could easily be enlarged.

Tank Compartments . . . Tanks are composed of inner compartments, outer compartments and leg pillars. Inner compartments consist of two cylinders set in parallel. Each cylinder is 40 ft. in diameter, 22 ft. in length with 1-in. steel walls. These tanks will be able to endure considerable pressure and will have a buoyancy equal to the total weight of the equipment. The cylinders are stronger against inside pressure than against outside pressure, so cylinders are charged with compressed air when the rig is submerged. Water valves are located at the bottoms of the cylinders and air and oil pipes at the tops. All valves are operated from the operating room. The cylinders are also connected by valves to the leg pillars.

Outer compartment . . . Outer compartment is used as oil storage area when unit is submerged. Steel plate for this compartment is ¾-in. thick. This outer compartment is divided into six chambers by three bulkheads; one installed lengthwise at the center and two others crosswise at the bow and the stern respectively. Each chamber has a large water valve at the bottom, manipulated from the deck. During submerging and raising operations, these water valves are opened so that sea water freely passes in and out, keeping the compartment safe from excessive water pressure.

Four pipes for air and oil are installed on the top, and valves connect this compartment with the leg pillars as in the case of inner compartment.

Leg pillars . . . Six hollow cylindrical leg pillars, each 23-ft. in diameter, convenient length and of ⅞-in. steel plate, support the whole rig submerged, and are also used as oil storage tanks. They are connected with both inner and outer compartments by valves.

Weight of the drilling rig:

Inner and outer oil compartments	3750 tons
Leg Pillars	1940 tons
Operating building	700 tons
Machinery	400 tons
Concrete ballast	9000 tons
Sand ballast	2700 tons
Total Weight	18,490 tons
Draft	23 feet

Concrete and Sand Ballasts . . . Ballasts are laid at the bottom to keep balance when submerging and raising, but when moving the rig, sand ballast is loaded on deck for towing stability.

Submerging the rig . . . To submerge the drilling rig, lay sand ballast at the bottom, open a water valve at the bottom of the outer compartments, then water will fill the outer compartments and the unit will sink to the top of the lower tank hull. Then charge compressed air into the inner compartments until the air and water pressure become equal for the depth of water the unit is in (100 ft.). Lastly, open a water valve set at the bottom of the leg pillars, then sea water comes in the pillars gradually and the rig settles gently to the bottom of the sea.

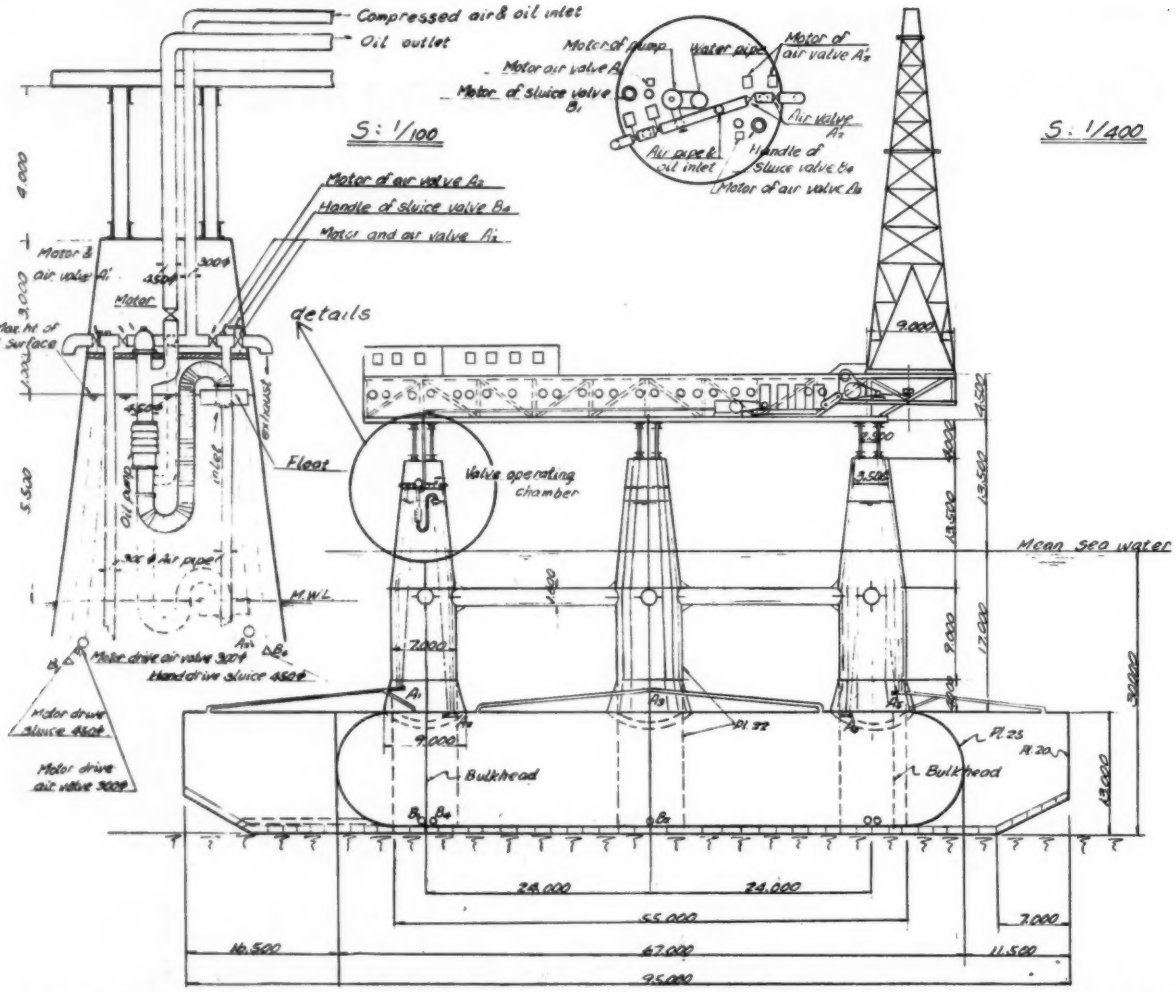
After submerging, compressed air should be exhausted from the inner compartments and their valves opened. Thus, after inner compartments are filled with water all three inner, outer and pillar compartments are filled, fixing the unit to the sea bottom.

Operating building . . . Crew-quarters and operations building are constructed atop the leg pillars, 45 ft. above the surface of the sea. The building is two storied. Each floor contains 17,800 square feet. Floors are 85 ft. wide, 210 ft. long and 15 ft. high. First level will contain the draw-works, mud-pumps, diesel

(Continued on next page)

ADVANTAGES OF RIG DESIGN

1. Submerged oil tanks form the major structural parts of this equipment.
2. Tanks are designed to always be filled with oil and/or water, reducing the pressure differential stress that must be designed for.
3. This rig can be engaged in offshore drilling and producing operations independently without any communications with the land.
4. Produced oil can be stored in the unit's own tanks, eliminating the need for continuous tanker service.
5. Tankers can be moored any place near the drilling rig, eliminating the need for a harbor installation.
6. Expense of pipe lines and onshore storage tanks is also eliminated.
7. The designer has devoted a large percentage of his time and energy during the last 35 years toward the problems of earthquakes, tidal waves, hurricanes and monsoons, and believes his rig design is completely safe from these disasters.



This rig is designed to drill for oil in up to 100 ft. of open water virtually unattended. It is then capable of producing the well and storing up to 215,000 barrels of oil at a time. The kilogram-meter unit of measure is used in this drawing instead of the foot-pound unit.

Combination Rig . . .

(Continued from preceding page)

generators, air compressors, distilling plant, water tank, fuel oil tank and crew quarters. Second floor will contain a crane, warehouses, pipe racks and offices and quarters for the superintendent and captain. In addition, atop of each leg pillar is a machinery room in which oil pumps and various valves are fixed.

During submerging and raising operations only 400 tons of machinery including draw-works are installed on the derrick floor. The remaining tools and materials are loaded after the tanks are submerged.

Drilling operations . . . If a producing well is drilled, the oil is pumped into the oil tanks of the inner and outer compartments and into the leg pillars. The inflow of oil forces the water to drain out through the valve set at the bottom of each compartment. When oil is transferred to tankers, water comes up through these water valves, and the oil surface stops higher than sea water line due to the difference of specific gravities between oil and water. A float is installed at the inlet of the oil pump so that oil will always be suctioned from the surface of the stored oil.

To avoid the up and down of the oil surface due to ebb and flow of the sea, you have only to shut tightly the floor of the pump room situated on top of the leg pillars.

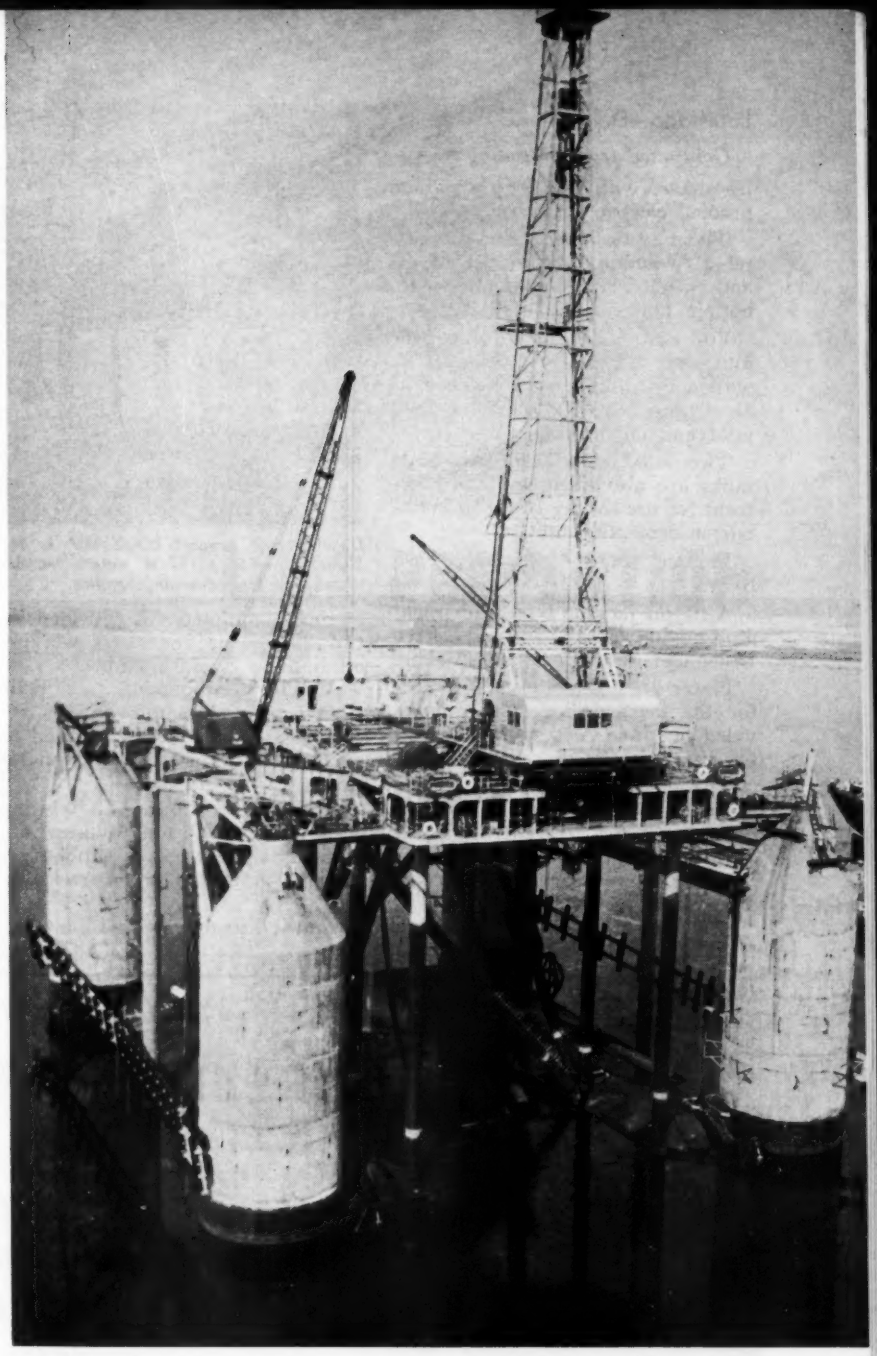
A number of conductor pipes for directional drilling can be inserted on this rig. Thus several producing wells could be used to keep the storage of the unit filled.

For moving to nearby drill sites drilling is suspended at the first site and connecting pipes are detached. Crude oil stored in the tanks is transferred to tankers. Then compressed air is charged into the inner compartment and the water inside drained out. Finally, compressed air is charged into the outer compartment and the bow leaves the ocean floor, a few feet, while the stern is still touching ground. In this state, the rig is skidded forward by a winch, little by little to the second drill site. Thus the platform can move around and drill dozens of wells with little outside help.

Needless to say, if there is no prospect for oil at the first drill site you can lift the rig to the surface and tow it to another site.

Construction cost for this rig, except, drilling machinery will be $2 million including the use of around 6400 tons of steel.

By adopting this rig design, economy of offshore operations can be effected not only through reduced initial rig costs but also by eliminating the need for pipelines, onshore storage tanks, or even continuous supply boat attendance.



Submersible drill barge LOUISIANA is of a Friede & Goldman elevated deck sloping hull design, 180 ft. by 151 ft. by 12 ft. by 82 ft. vertical clearance. Distance from bottom of the hull to the rotary table is 100 ft. Maximum operating depth in non-hurricane season is 67 ft.

Ingalls built . . .

Submersible Drill Barge Louisiana

Louisiana-Delta Offshore's newest addition to the Offshore drilling fleet is capable of drilling past 20,000 feet in 67 ft. waters.

INGALLS Shipbuilding Corporation has recently completed a deep water submersible drilling barge for the Louisiana-Delta Offshore Corporation. The unit is of a Friede & Goldman elevated deck sloping hull design, 180 ft. by 151 ft. by 12 ft. with 82 ft. vertical clearance. From the bottom of the hull to the rotary table is 100 ft. and the drilling slot is 32 ft. by 34 ft. The unit has a maximum operating depth of 67 ft. of water during non-hurricane season.

Drilling equipment . . . Drawworks aboard the **Louisiana** is a Model U-1220-BE Unit drawworks powered by two 685 hp Alco motors. A coring reel is mounted on the Drawworks.

Derrick is a 142 ft. Lee C. Moore standard cantilever type with a million pound load capacity, mounted on a six and a half foot by 34 ft. by 56 ft. substructure designed to drill three wells on eight foot centers.

The rotary is a Unit Rig 27½ table. The unit is also equipped with a Reagan 6-M 50-500 block grooved for 1⅜ in. line. Hook is a Byron Jackson 5450 Hydraplex, and swivel is a Gray Oil Tools Model B-44. Slips, elevators and spider were also furnished by the Byron Jackson Tool Company.

The units Cameron-Hydrill blowout preventer system is actuated by a Koomey four stage control system with a remote control in the engine room. Unit also has a Payne b.o.p. testing unit.

Mud system . . . The **Louisiana** is equipped with two D-1000 Emsco mud pumps powered by 600 hp Alco electric motors.

Shale shaker is a Thompson dou-

(Continued on next page)

Louisiana—Delta . . .

(Continued from preceding page)

ble shaker with two 3 hp explosion proofed electric motors.

The mud system has two 300 barrel active mud pits with agitators and two 300 barrel mud tanks with bottom tank mud guns.

For dry bulk mud storage the unit has 3 Delta Air Slide tanks with a 500 sack capacity. There is also space for 5000 sacks of bulk mud and chemicals.

Two 1000 sack Delta Air Slide tanks are also filled with bulk cement for use by the two T10 Halliburton cementing units.

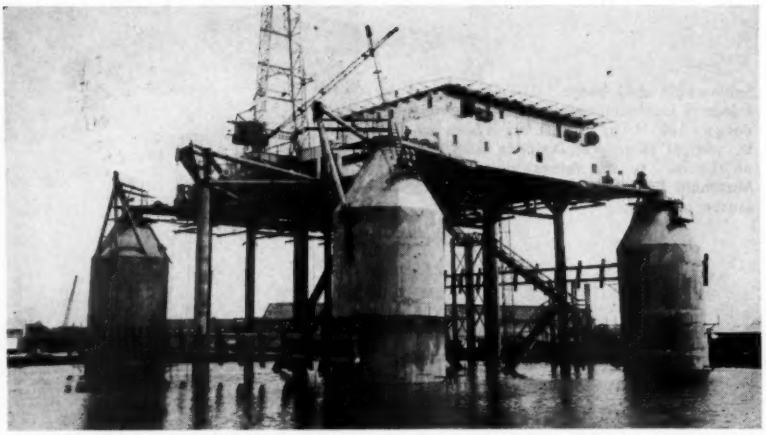
Drilling water tanks hold 4100 barrels.

A Byron Jackson 6 in. centrifugal mud-mixing pump and a Dorrco De-Sander round out the system.

Power . . . Diesel-electric power for the deep drilling unit is provided by three Alco 6-cylinder 850 hp diesel electric generator sets.

The first skid mounted set powers two 500 kw-dc generators, the second powers two dc generators and one 250 kw-ac generator and the third set powers one dc generator and one ac generator.

Power for the light plants and auxiliary equipment is provided by two 250 kw-ac generators working off number 2 and 3 skids.



Diesel-Electric powered LOUISIANA is designed to utilize almost 4000 hp to drill past 20,000 ft. in up to 67 ft. waters. Movable substructure allows three wells to be drilled without platform changing location.

Auxiliary equipment . . . Four 10,000 pound anchors on 1½ in. 50,000 pound test lines are used to anchor the submersible unit on location.

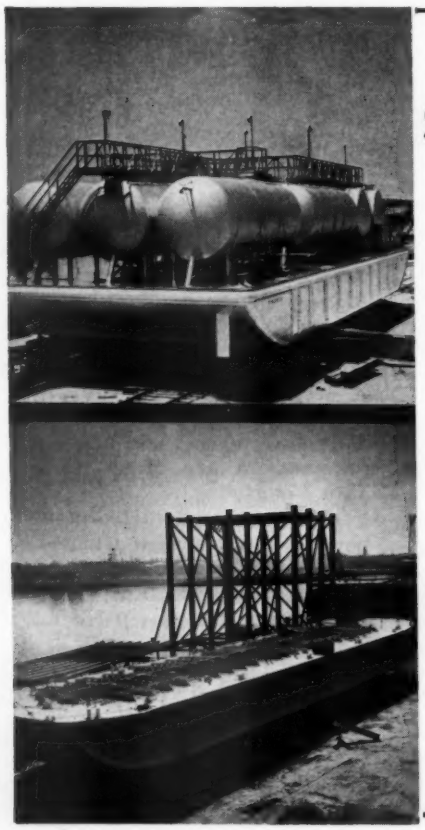
One 35 ton Link Belt Whirley crane and a 20 ton Whirley are used to handle pipe and supplies on deck. Both cranes are diesel powered.

Unit is also equipped with a Oscilating type Schlumberger unit mounted 60 ft. from the derrick floor.

Potable water storage tanks hold 850 barrels and the barge has two 300-gallon-an-hour Meco distillation units in addition.

Diesel fuel tanks hold 850 barrels of fuel.

Crew quarters . . . The **Louisiana** has modern air conditioned quarters for 40 men. A helicopter deck large enough for the largest helicopter is located atop the crew quarters.



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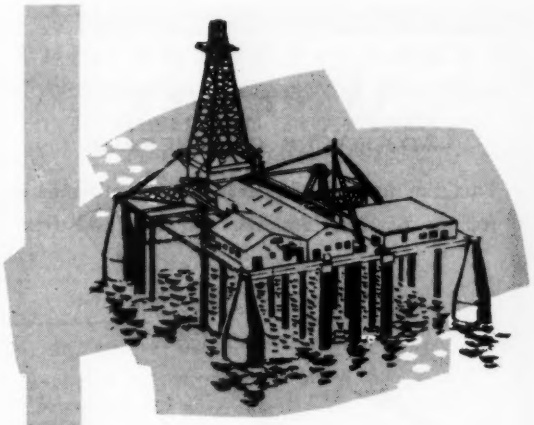
Mobile Units, Tenders, And Self-Contained Platforms Gulf Coast Area

OWNER	NAME	WATER DEPTH	PRESENT STATUS
Barnwell Offshore, Inc. Self-elevating 176′ x 176′ x 152′ with three 145′ legs	"Mister Cap"	To 100′	Drilling for Sinclair-Sohio, Block 153, Ship Shoal Area
Blue Water Drilling Corp. Submersible	Rig No. 1	70′	Drilling in Block 78, Vermilion Area, for Austral Oil
The California Company Submersible 11′ x 90′ x 156′ with four 3′ x 10′ x 35′ pontoons	S-45		Bay Marchand, La., Rowan Drilling Co., contractor
The California Company Submersible 12′ x 90′ x 190′, with four 4′ x 24′ x 50′ pontoons	S-55		Bay Marchand, Louisiana, Noble Drilling Company
Continental Marine Exploration Co. Submersible 230′ x 99′ with 54′ between fixed hulls	"M & H Drilling Platform No. 12"	To 30′	Shut down, Terrebonne Bay
Coral Drilling Company Submersible 180′ x 151′ x 84′ with four pontoons	"Mr. Arthur"	To 70′	Drilling in Block 23, S. Timbalier Area, California Company.
Deepwater Exploration Co. Self-elevating overall 121′ x 118′	"Deepwater No. 2"		Completely salvaged unit at LeTourneau, Vicksburg yard
Delta Marine Drilling Co. Submersible	"Chris Zeppa"	To 35′	Waiting on Location
Dixilyn Drilling Corp. Self-elevating 194′ x 152′ overall. Three 175′ legs	"Julie Ann"	To 105′	Well plugged & abandoned 6-6-58. Drilling Barge still on location
C. G. Glasscock Drilling Co. Self-elevating. Deck 258′ x 104′, pad 200′ x 180′ with four 10′ dia. columns	"Mr. Gus II"	138′	In Block 48, West Delta Area, Waiting on Location
Gulf Marine Drilling, Inc. Submersible	Rig No. 1	30′	Drilling La. State Lease 1483 for Gulf
Kerr-McGee Oil Ind., Inc. Submersible 13′ x 54′ x 160′ with two 13′ x 14′ x 110′ pontoons	Rig 40	To 20′	Waiting on Location, Eugene Island Area
Kerr-McGee Oil Ind., Inc. Submersible 13½′ x 72′ x 140′ with two 13½′ x 13½′ x 140′ pontoons	Rig 44	To 40′	Drilling in Block 28, Ship Shoal area for Kerr-McGee et al.
Kerr-McGee Oil Ind., Inc. Submersible 142′ x 69′ x 13′6″, with two 10′ x 11′ x 146′ pontoons	Rig 45	To 35′	Moving to Block 48, Main Pass for An-Son Offshore Drilling Company
Kerr-McGee Oil Ind., Inc. Submersible	Rig 46	To 70′	Drilling in Block 39, Vermilion Area for Pure Oil Co.
Kerr-McGee Oil Ind., Inc. Submersible	Rig 47	To 70′	Drilling for Phillips Petroleum Company, Block 40, West Cameron
Louisiana-Delta Offshore Corp. Submersible 180′ x 151′ x 12′	Drill Barge Louisiana	To 65′	Christened April 8, 1958
Louisiana-Delta Offshore Corp. Submersible 156′ x 90′	Drill Barge Delta	To 25′	Waiting on location for The Texas Company
Magnolia Petroleum Co. (Drill barge on piling)	Rig 52		Out of service
Marine Drilling Inc. Submersible 12′ x 74′ x 200′ with four fixed pontoons	"101"	To 45′	Waiting on location, Timbalier area
Movible Offshore Co. Robert Macy Design 201′ x 211′ x 110′	"Movible No. 2"	To 80′	Drilling for John W. Mecom, West Cameron Area
Noble Barge Co. Twin-hull submersible 217′ x 100′	"Lloyd Noble S-66"	To 100′	Being built at Avondale Marine Ways



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OWNER	NAME	WATER DEPTH	PRESENT STATUS
Ocean Drilling & Exploration Company Submersible 200' x 300' x 98'	"El Dorado"	To 70'	Drilling for CIMA, Gulf of Campeche, Mexico
Ocean Drilling & Exploration Company Submersible 132' x 220' x 58'	"Mr. Charlie"	40'	Drilling for Shell Oil, Block 27, South Pass Area
Ocean Drilling & Exploration Company Submersible 120' x 180' x 49'	"John Hayward"	30'	Drilling for self, et al. Block 9, East Cameron Area
Ocean Drilling & Exploration Company Submersible 200' x 300' x 93'	"Margaret"	To 60'	Drilling for Shell, Block 27, South Pass
Ocean Drilling & Exploration Company Submersible 120' x 180' x 50'	"St. Louis"	To 30'	Drilling for Shell, Block 27 South Pass Area
The Offshore Company Self-elevating 8½' x 70' x 203' with twelve 6' dia. caissons	Mobile Unit No. 51		Bayou Bouef Louisiana
The Offshore Company Self-elevating 13⅓' x 117' x 220' with fourteen 6' dia. caissons	Mobile Unit No. 52		Block 129-A, Eugene Island Area
The Offshore Company Submersible 12' x 74' x 200' with four 6' dia. caissons	Mobile Unit No. 53		Block 67, West Cameron Area
The Offshore Company Self-elevating 200' x 104' x 15' with eight 12' dia. towers	Mobile Unit No. 54		Block 22, S. Timbalier Area
The Offshore Company Self-elevating 200' x 104' x 15' with eight 12' dia. towers	Mobile Unit No. 55		Panama
The Offshore Company Self-elevating	Mobile Unit No. 56		Under Construction by American Bridge, Orange, Texas
Penrod Drilling Company Submersible 150' x 190'	"Jim Woodruff"	To 70'	On location in Bay Marchand Area
Placid Oil Co. Twin submersible hulls, each 72' x 178'	Unnamed	To 100'	Being built by Levingston at Orange
Reading & Bates Offshore Drilling Company Self-elevating	"C. E. Thornton"	To 90'	Drilling for Gulf Oil Corporation, Block 21, South Timbalier Area
Rimrock Tidelands, Inc. Submersible	"Rimtide"	To 35'	Completed in May, 1958 En Route to location, Block 49, Main Pass Area, Plaquemines Parish, Louisiana
Sea Drilling Corp. Submersible	"Seadrill 2"	30'	Drilling for Union Oil & Gas Corp. of Louisiana, High Island Area
Sea Drilling Corp. Submersible	"Seadrill 3"	30'	Drilling for The Texas Co., South Timbalier Area
Southeastern Drilling Corp. Submersible 11' x 90' x 156' with four pontoons	Rig 22, Barge 8		Drilling for The Texas Company, Southwest Marsh Island
Trans-Gulf Offshore Drilling, Inc. Self-elevating	"Trans-Gulf No. 10"	75'	Christened March 7 at Adams Terminal, Houston, Texas
Union Producing Co. Submersible 160' x 190'	Unnamed	To 76'	Under construction at Todd Shipyards Corp., Houston
Universal Drilling Company Self-elevating	"Mr. Louie"	To 130'	Under construction by Port Houston Iron Works
Zapata Off-Shore Company Self-elevating. 194' x 152' overall. Three 145' legs	"Vinegaroon"	To 80'	Drilling for Standard Oil Company of Texas, Block 140-1, off Coast of Galveston, Texas
Zapata Off-Shore Company Self-elevating. 20' x 80' x 140', with three triangular legs	"Scorpion"		On location Cay Sal Bank, Bahamas

Drilling Tenders

OWNER	NAME	WATER DEPTH	PRESENT STATUS
An-Son Offshore Drilling Co.	"Carl B. Anderson"		Block 27, Bay Marchand
The California Company Converted LST, 328' x 50'	S-21	22'	Bay Marchand, Louisiana, Noble Drilling Co.
The California Company Converted LST, 328' x 50'	S-22	100'	Vermilion Area, Louisiana, Noble Drilling Co.
The California Company Converted LST, 328' x 50'	S-23	45'	Bay Marchand, Louisiana, Noble Drilling Co.
The California Company LST, 328' x 50'	S-24	37'	West Delta Area, Louisiana, Noble Drilling Co.
The California Company LST, 328' x 50'	S-25	39'	West Delta, Louisiana, Loffland Bros. rig
The California Company LST, 328' x 50'	S-26	23'	Main Pass, Louisiana, Loffland Bros. rig
Coastal-Marine Drilling and Construction Corp. New tender, 272' x 56'	Howard S. Cole Jr. Coastal-Mariner No. 1		Building platform and preparing to drill in Block 27, South Timbalier Area
CATC Group New tender, 260' x 54'	"J. C. Craig"	50'	Drydock
CATC Group New tender, 260' x 54'	"Carle Sharp"	72'	Drydock
CATC Group New tender, 260' x 54'	"Ernie Miller"	50'	Drydock
CATC Group New tender, 260' x 54'	"Jack Cleverley"		Drydock
Deepwater Exploration Co. Converted LST, 328' x 50'	"Deepwater No. 1"		Block 174, Ship Shoal
Delta Marine Drilling Co. Converted LST, 326' x 50'	"Joseph Zeppa"	42'	Stacked
Gulf Oil Corporation New tender	"Dolphin"		Completed, placed in moth ball fleet at Orange, Tex., engines pickeled, and rig stacked
Gulf Oil Corporation Converted LST, 328' x 50'	"Eagle"	118'	Rig stacked at Morgan City, Louisiana
Gulf Oil Corporation New tender, 272' x 60'	"Pelican"	136'	Rig stacked at Morgan City, Louisiana
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-1	50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-2	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-3	60'-65'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-4	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-5	40'-50'	At Orange, Texas for storage
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-6	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-7	50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-8	60'-65'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-9	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-10	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-11	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-12	45'-60'	South Timbalier Area

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PERMAGILE

OWNER	NAME	WATER DEPTH	PRESENT STATUS
Kerr-McGee Oil Ind., Inc. Converted YF, 260' x 48'	"Kermac I" Rig 16		Waiting on Location
Kerr-McGee Oil Ind., Inc. New Tender, 250' x 50'	"Kermac II" Rig 43		Waiting on location
Kerr-McGee Oil Ind., Inc. New Tender, 250' x 50'	"Kermac III" Rig 48		Waiting on location
Kerr-McGee Oil Ind., Inc. Converted YF, 260' x 48'	"Frank Phillips" Rig 39		Waiting on location
Liano Drilling Company New tender, 260' x 54'	"Clayton G. Dorn"		In Drydock Orange, Texas
Magnolia Petroleum Co. (Converted YF)	"Gulf Coast Barge No. 2"		Out of Service
MCN Group Converted YF	MDT-1		Block 64, East Cameron Area, Well A-6 Drilling
MCN Group Converted YF	MDT-2		Out of Service
MCN Group Converted YF	MDT-3		Out of Service
MCN Group Converted YF	MDT-4		Out of Service
MCN Group Converted YF	MDT-5		Out of Service
MCN Group Converted YF	MDT-6		Out of Service
MCN Group Converted YF	MDT-7	27'	Block 72, Ship Shoal Area, Well H-1, drilling
Pan American Petroleum Corp. Converted LST, 328' x 50'	"Pan American 50"		Orange, Texas
Phillips Petroleum Company Converted YF, 260' x 48'	"K. S. Adams" Rig 40	24'	Bay Marchand, Block 5
Reading & Bates Offshore Drilling Company	"J. W. Bates"	60'	Drilling for CATC, Block 123, Vermillion Area
Reading & Bates Offshore Drilling Company	"George M. Reading"	60'	Drilling for Shell Oil Co., Block 175, Eugene Island Area
Southeastern Drilling Corp. Converted YF	Rig 12, Barge 9		Shut down, Industrial Canal, New Orleans, Louisiana.
Zapata Off-Shore Company Converted YF, 260' x 48'	"Nola No. 1"	16'	At Galveston, waiting on location

Self-Contained Platforms

COMPANY	DESCRIPTION	YEAR BUILT	LOCATION	WATER DEPTH
Brewster Bartle Off-Shore Co.			Block 30, West Delta	50'
CATC Group	106' x 220'	1955	Block 47, Grand Isle, La.	95'
CATC Group	110' x 146'	1956	Block 40, Grand Isle	82'
CATC Group	110' x 146'	1956	Block 45, West Delta	50'
CATC Group	110' x 146'	1957	Block 47, Grand Isle	88'
CATC Group	110' x 146'	1957	Block 45, West Delta	50'
CATC Group	110' x 146'	1957	Block 48, Grand Isle	97'
Dixilyn Drilling Corp. Rig #7	120' x 145'	1956	Rig removed and in storage at Dupont's Bayou Bouef yard	
Forest Oil Corp.			Block 4, E. Cameron, Gulf Marine Drilling Inc. (power-package rig)	
Gulf Oil Corporation	120' x 145'	1957	Rig Stacked at Morgan City, La.	
Humble Oil & Refg. Co. Rig # 50	78' x 200'	1956	J Platform, Block 16, Grand Isle Area	50'
Humble Oil & Refg. Co. Rig # 54		1958	D Platform, Block 54, South Timbalier Area	
Mecom Petroleums	82' x 193'	1948	Rig removed from platform	34'
Phillips Petroleum Co.	85' x 140'	1955	Block 184, Eugene Island Area, vacated, platform remains	84'
Phillips Petroleum Co.	88'9" x 140'	1955	Block 129-A, Eugene Island Area, La. Platform Inactive	52'
Phillips Petroleum Co.	88'9" x 140'	1956	Block 172, Eugene Island Area. Vacated platform	77'
Phillips Petroleum Co.	88'9" x 140'	1956	Block 191, Eugene Island. Platform inactive	81'
Phillips Petroleum Co.	88'9" x 140'	1957	Block 129, Eugene Island Area. Company tools	57'
Pure Oil Company Converted LST	328' x 50'	1958	Orange, Texas	
Pure Oil Company	52' x 106' with 51' x 82' pipe rack	1957	Well completed, rig removed	72'
Shell-Humble	115' x 135'	1958	Block 188, Eugene Island Area	68'
Shell Oil Company	115' x 135'	1958	Block 192, West Cameron Area	56'
Shell Oil Company	55' x 110'	1958	Block 176, Eugene Island Area	86'
Sinclair Oil & Gas Co.	112' x 133'	1956	Block 86, South Timbalier Area, Rimrock Tidelands, contractor	92'
Sinclair Oil & Gas Co.	118' x 142'	1957	Block 175, Eugene Island Area	85'
Sinclair Oil & Gas Co.	118' x 142'	1957	Block 190, Eugene Island Area. Rimrock Tidelands, contractor	72'
Sinclair Oil & Gas Co.	118' x 142'		In storage at McDermott Bayou Bouef yard	
Sinclair Oil & Gas Co.	80' x 180'	1955	Block 15, South Timbalier. No rig in operation	
Sinclair Oil & Gas Co. (L Shaped)		1955	Block 175, Eugene Island Area	
The Superior Oil Co.	138' x 326'	1955	Block 71, West Cameron. Well B-6 (directional)	48'
The Superior Oil Co	96' x 225'	1958	Block 76, Vermilion Area. Well B-1 Moving on Location—structure completed	21'

Contract Drilling . . .

(Continued from page 36)

ance, foreign workmen's compensation, foreign corporation laws and taxes, personal income tax laws, and various other related matters. Also, he will find out about the so-called soft currencies if he deals with oil companies whose headquarters are located in "soft currency" countries. In order to be competitive, he will probably accept European "soft currency" for services and will learn of means whereby he can make use of these currencies.

You can appreciate the time and effort spent by the contractor in developing a working knowledge of overseas operations. Time will not permit my describing all these aspects in detail. However, as an example, I will mention several of the considerations involved in registering to do business in a foreign country.

Legal questions . . . Reliable information must first be obtained from attorneys in the foreign country as to the requirements of the local government on both foreign and national companies. In other words, can a branch or some form of U. S. company do business on the same basis as a national company? Does one or the other have advantages with reference to the importation and exportation of the drilling equipment and employment of local labor? Is the conversion from local currency to dollars possible without unwieldy restrictions? Is the local foreign corporate income tax structure the same for foreigners and Nationals alike? Does the United States have an income tax treaty with the foreign country? Are there unusual gross receipts taxes, property taxes, etc., that should be considered as an additional cost of doing business? Must insurance coverage be purchased from a local carrier and if so what are the limitations of coverage? Is an unusually long depreciation life required by law, thereby resulting in an apparent high profit and abnormally high income taxes? Are there limitations imposed as to maximum salaries deductible for tax purposes? Are such items as head office overhead, interest, and in fact, any costs incurred outside the foreign country deductible?

All these problems must be considered before a decision can be made whether to conduct the operations through a regular U. S. corporation or a foreign subsidiary. When contracting in the Western hemisphere, special U. S. tax benefits are often possible if work is done by a specially qualified U. S. company.

Summary . . . In the above text I have tried to outline the contractor's interests and problems when he is engaged in overseas drilling. You can see why it takes years of trial and error for a contractor to develop an organization with know-how to perform all of these functions with efficiency and thoroughness, and at a competitive price. It is true that in learning the ropes there are conditions and costs encountered which are not always anticipated, and for which neither time nor money had been allowed in the early original bids.

A competent organization must develop which encompasses all aspects of the business with each department being closely coordinated. This takes in the purchase of equipment and supplementary supplies, overall drilling supervision, engineering, mud service, management guidance and decisions, customer contact, law and tax decisions, and accounting matters.

Yes, the organization is important, but, like the tree that is dependent on its roots for life, so is the contractor dependent upon his far-flung personnel, right down to the lowest paid worker.

In the final analysis, practically all the contractor has for sale is service, and that service is dependent primarily upon his organization and personnel.

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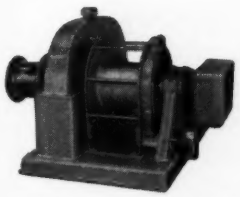

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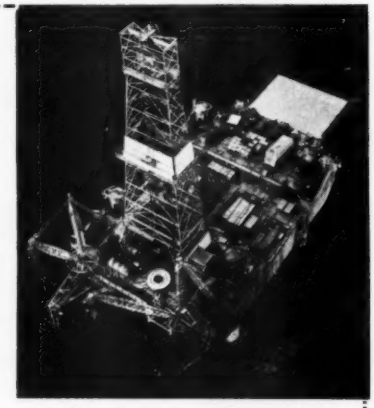

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Concrete Piles . . .

(Continued from page 40)

Oil Company of Venezuela, Compania Shell de Venezuela, and Signal Exploration Company.

Multiple Well Platform . . . Another area where the cylinder pile is well suited is the Gulf of Paria between Trinidad and Venezuela. Here the Texas Trinidad Company is completing a 36-well directional drilling platform. The platform will mount a Lee C. Moore Corporation six-post, six-well drilling derrick with a movable crown block. The derrick will drill six holes from one position, then skid itself to the next position and drill another six holes.

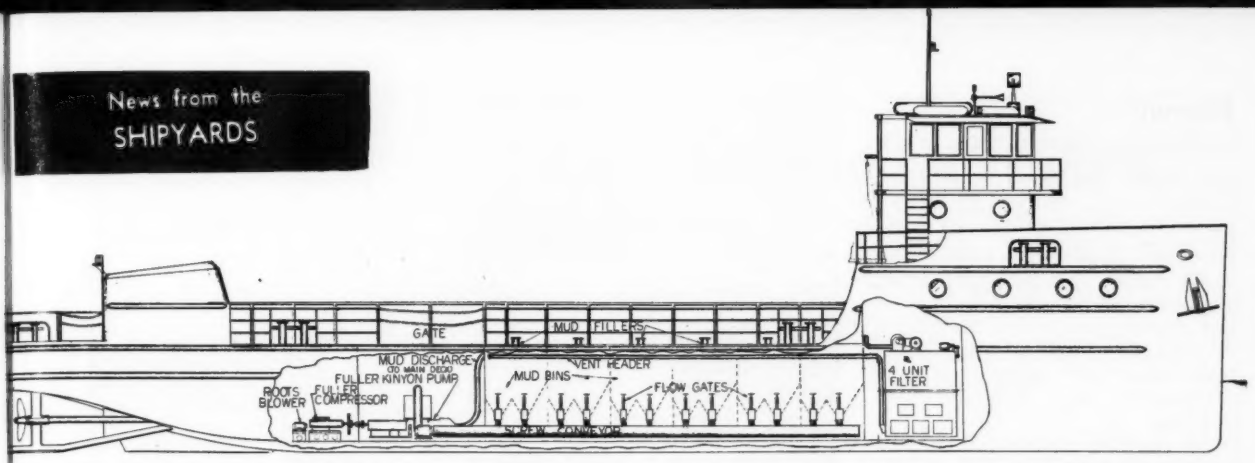
Located one and a half miles from Trinidad in 68 ft. of water, the structure consists of a main drilling deck 50 ft. by 157 ft. and an adjoining machinery deck 65 ft. by 71 ft. Platforms are supported on about 50 prestressed cylinder piles, and an additional 36 piles installed in two lines under the drilling platform serve as conductor pipes.

Maximum operational load on the derrick posts is 300 tons, and each post is supported by two 36-in. cylinder piles. These two piles form a type of A-frame which not only supports the large vertical load but also resists lateral forces which may act on the structure.

Gulf of Mexico Structures . . . In the coastal bays and offshore from Louisiana and Texas, more than 50 structures have been built with prestressed concrete cylinder piles. Included are oil production platforms, tank battery platforms, docks, storage platforms, central separator stations, compressor platforms and conductor pipes.

One of the more interesting cylinder-pile structures in the Gulf of Mexico is a tank battery platform, built for Magnolia Petroleum Company in open water about 40 ft. deep. This is a jacket type structure with 54-in. cylinder-pile legs cross-braced with steel pipe welded to steel collars which were spun with the pile sections. As corrosion protection, all exposed steel was covered by reinforced 2-in. thick gunite over a bitumastic coating.

Jackets were assembled on a barge and towed to the location. There, a 250-ton floating derrick set them on the Gulf floor. Then 36-in. cylinder piles were driven through the jacket legs 130 ft. into the Gulf floor to serve as bearing piles and the annular space between was filled with grout. A precast concrete deck was then placed on top and the tank battery installed.



Designer's sketch of new 120-ft. long mud supply boat shows below-deck mud bins—six on each side—providing a combined storage capacity for 240 tons of bulk mud. Material is withdrawn by means of Fuller-Huron airslides with hand operated flow gates controlling discharge rate.

Delta Tank and Macy design . . .

New Offshore Mud Vessel

Self propelled 120-ft. boat for Consolidated Shipping has 12 below-deck compartments for bulk mud storage

A NEW mud supply boat built at Harvey Canal Shipyard and Machine Shop has twelve storage compartments of 25 tons each.

Measuring 120 ft. in length, the vessel is being built for Consolidated Shipping Company.

A number of oustanding features are incorporated in the bulk mud storage, transfer and conveying system which was designed and constructed by Delta Tank Manufacturing Company of Baton Rouge, Louisiana, working in close liaison with Robert H. Macy, Naval architect and marine engineer of Pascagoula, Miss.

All mud is kept below deck, thus keeping the center of gravity at an absolute minimum.

Dividing the storage into twelve separate compartments permits a pre-weighed amount to be carried to the customer and delivered independently of other quantities. This also places location of weighing on shore where certified quantities may be obtained without regard to sea-action.

Material is withdrawn from each compartment by means of patented Fuller-Huron airslides. Special hand operated flow gates control withdrawal while mud is being discharged from the bin into a 60-ft. long extra heavy screw conveyor.

The screw conveyor trough terminates in a special pipe end which in turn passes material into a fluidizing air lift.

This serves to elevate mud three or four feet into a receiving hopper, thereby permitting minimum head room on the screw system.

Receiving hopper is placed directly over a six-in. Fuller-Kinyon pump to which power and air supply have been increased slightly above normal, allowing a guaranteed 50 tph delivery rate through a five-in. hose.

Air is supplied by a C-110 Fuller rotary compressor. Both the Fuller-Kinyon pump and the compressor are driven by a GMC 671 diesel engine with the pump being clutch driven so that the compressor must be started before the pump is put into operation.

During the filling operation, dust is controlled through a dust collec-

(Continued on next page)

CREWMASTER, measuring 64 ft. long by 20 ft. wide, has been completed by Skippy Walker Ship Repair Company, Pascagoula, Miss. Gemaco, Inc., Harvey, La., will utilize the crewboat in servicing offshore rigs.

Shipyard . . .

(Continued from preceding page)

tor header connected to each individual compartment and conveying to a DRACCO No. 5-FB mechanically shaken dust collector.

Air supply for the withdrawing airslides is ingenuously provided from the engine powering the Fuller-Kinyon pump and compressor. All components and installations were designed to comply with ABS specifications.

Capacity of the vessel is 4800 bags of mud (240 tons), plus 150 tons of deck cargo. Dimension wise, it measures 120-ft. by 32 ft. by 10.5 ft. and has a 6.5-ft. draft with a load of mud.

Twin screw and self propelled, the vessel is powered by GM main engines and generators supplied by Kennedy Marine Engine Company of Biloxi, Miss.

Sewart-Built ESTHER G. Goes to Work as Crewboat

A new crewboat that carries 17 passengers at speeds up to 22 mph has been added to the offshore fleet of W. A. Richmond, Morgan City, Louisiana.

The Esther G., built by Sewart Seacraft, is powered by two NRTOM Cummins turbo-diesel engines. It has been equipped with 32-in. wheels and Capitol 2:1 gears.

M/V SUMTER, **first aluminum tugboat to be built in the United States, is an all-welded shallow draft vessel designed for use in the bayous and marshland oil fields of South Louisiana. Built by Bryant Boats, Inc., in cooperation with Kaiser Aluminum & Chemical Sales, Inc., the tug derives main power from two GM 6-110 model diesel engines, supplied by Kennedy Marine Engine Company of Biloxi, Miss.**

Aluminum Tug for Oilfields Is First to Be Built in U.S.

A new vessel designed for use in the bayous and marshland oil fields of Southern Louisiana has the prestige of being the first aluminum tugboat to be built in the United States.

Christened last month in New Orleans, the 55-ft. all-welded **M/V SUMTER** is also the first aluminum vessel of any type to be certified by the American Bureau of Shipping.

Built by Bryant Boats, Inc. of Bayou LaBatre, Alabama, in cooperation with Kaiser Aluminum & Chemical Sales, Inc., the new tug has a shallow draft of only 4½ ft. which permits it to operate in waters too shallow for conventional tugs of its size.

Its power plant, two GM 6-110 model diesel engines, was supplied by Kennedy Marine Engine Company of Biloxi, Mississippi, and merchandising of the vessel was placed with Calvert Marine Services of New Orleans, sales representatives for Bryant Boats.

The vessel has facilities for a four-man crew. The main deck house has a galley, living quarters for two, and a shower. Aft of the wheelhouse, on the second deck, are quarters for master and mate, with lockers and lavatory.

Fuel tanks are located forward in the hull and water tanks aft.

Built according to a requirement of the American Bureau of Shipping that it have strength and stiffness equal to steel, the **M/V SUMTER** has ⅜-in. aluminum plate on the

One of the most powerful tugs ever built, the 2100-hp SAVANNAH was christened at New Orleans recently before going to work for Atlantic Towing Company of Savannah, Ga. A 16-cylinder, turbo supercharged marine diesel engine built by Alco Products, Inc. powers the 55-ft. vessel.

bottom and sides and 5/16-in. plate on deck.

It was fitted with a stern tube fabricated from 5-in. extra heavy aluminum pipe and designed with six transverse water tight bulkheads and one center line water tight bulkhead.

The only non-aluminum parts in the boat are those in the engines plus the propeller and propeller shaft which are made of bronze. Electrolytic action is prevented by separating dissimilar metals.

Constructed of corrosion-resistant, high-strength weldable alloys 5083 and 5086 developed by Kaiser Aluminum, the boat is expected to experience less vibration and noise, reducing equipment wear and crew fatigue.

Bryant estimates that hull construction required approximately 30 per cent less man-hours than a comparable boat of steel. Cutting was accomplished by ordinary portable power saws, eliminating the necessity of using torches.

"We selected a hawser tug for our aluminum prototype, because we thought this would have a particular appeal to the oil industry operating offshore in the Gulf Coast area," said Oliver Bryant, president of Bryant Boats, Inc.

Todd Shipyards Will Build Two Liquid Cargo Barges

Two liquid cargo barges measuring 295 ft. by 53 ft. by 10 ft. will be built by the Products Division of Todd Shipyards Corporation at Houston.

Seaboard Shipping Corporation of New York City placed the order for the vessels which will be delivered in July.

Designed by George B. Drake, Naval architect of New York City, the two barges will each be equipped with a diesel-driven deep well pump capable of handling 2000 gallons of brine solution per minute.

Dupont's Louisiana Shipyards Complete 35-Foot Crewboat

A 35-ft. crewboat was recently completed at the Patterson, La., shipyard of E. W. & A. P. Dupont, Inc.

The company also builds tugs and barges for use by the offshore oil industry in both domestic and foreign areas.

(Continued on next page)

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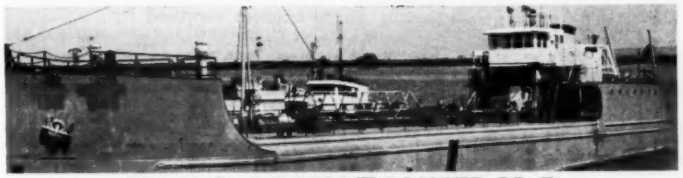

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Shipyard . . .

(Continued from preceding page)

Todd Shipyards Completes Largest Combination Barge

Largest combination barge in the world has been completed by Todd Shipyards Corporation's Seattle Division for the Upper Columbia River Towing Company of Vancouver, Washington.

The 299-ft.-long vessel, with an over-all width of 75 ft. and a hull depth of 21 ft., is 17 ft. longer and 7 ft. wider than the next largest steel barge on record.

Hull of the all-welded steel barge, designated as "539" is subdivided and framed in a manner quite similar to that used on conventional sea-going self-propelled tankers.

Total capacity of the cargo tanks is 3,075,000 gallons, and the entire space below the main deck, with the exception of chain lockers and surrounding cofferdams, may be used for bulk liquid cargoes.

Offshore Towing Firm Builds Floating Dock Out of Barge

M. C. Boat Company, Morgan City, Louisiana, has been converting a 120-ft. by 30-ft. barge into a floating dock for its fleet of offshore towing vessels.

A 24-ft. by 30-ft. metal deck house will be constructed at one end of the dock for storage.

The firm, which owns five tugs and an oil barge, has negotiated for an area near Berwick, Louisiana, to locate the dock.

Main Iron Works Completes New 65-Ft. Gulf Tugboat

Capt. Tenner Cenac, a 65-ft. tug, has joined the fleet of Alfred P. Cenac Towing Company at Houma, La.

Built by the Main Iron Works, Houma, the boat is powered by two tandem twin 5-71 General Motors diesel engines turning 54-in. by 34-in. twin screws through 4:1 reduction gears.

At the present time it is engaged in servicing offshore rigs in the Gulf of Mexico, in general towing, and in towing crude oil barges. The vessel's barge tows generally average 27,000 barrels of crude oil per run.

SERVICE PERSONALITIES . . . . . In the News

Troutz Named V-P Of Cummins Sales & Service de Venezuela

Ken W. Davis, president of Cummins Sales & Service de Venezuela, C. A., recently announced the appointment of Leo J. Troutz as vice president.

Troutz

General office for Cummins Sales & Service de Venezuela, C. A., is in Caracas. The company distributes and services Cummins diesel and Turbodiesel engines in Venezuela for petroleum, transportation, marine, and industrial power applications.

The company also has maintenance shops and sales points in Caracas, Maracaibo and Anaco.

Troutz will continue as General Service Manager of Cummins Sales & Service, Inc., Fort Worth, Texas, and divide his time between the two organizations. He has been with the Fort Worth company since 1943.

Security International, C. A. Named World Wide Sales Rep.

A. M. Birnie, executive vice president-sales, Security Engineering Division, Dallas, Texas; and Security Rock Bits Limited, Manchester, England, announce the appointment of Security International, C. A. as their world-wide sales representative (outside the United States and Canada) for all Security rock bits, hole openers, roller reamers, rubber stabilizers, and casing scrapers manufactured in their plants in Dallas, Texas; Whittier, California; and Manchester, England.

To provide world-wide sales, engineering, and service coverage for the oil industry, Security International has established principal offices in Caracas, Venezuela, for sales and service in the Western Hemisphere and in London, England, for the Eastern Hemisphere.

Western Hemisphere office is at Apartado 4880, Correos Del Este, Caracas, Venezuela, S. A. South American manager is S. C. Welker. Eastern Venezuela district manager is A. R. Patton. Western Venezuela district manager is B. A. Barker.

Eastern Hemisphere office is at English Steel Corporation, St. Ermins-Caxton Street, London SW-1, England. Sales manager is Harold Hall; assistant manager is Peter L. Winter.

Western Hemisphere agents are in Madrid, Mexico; Havana, Cuba; Buenos Aires, Argentina; Lima, Peru; LaPaz, Bolivia; Santiago, Chile; and Rio de Janeiro, Brazil.

Eastern Hemisphere agents are in Tripoli, Libya; Tokyo, Japan; Taipei, Taiwan, Formosa; Zagreb, Yugoslavia; Madrid, Spain; and London, England. Security is one of the Dresser Industries.

Welex Opens New Harvey, Louisiana, Service Base

Welex, Inc., has opened a new operating base for oil well service on the new expressway at Harvey, Louisiana. The new building and facilities are especially designed and equipped to offer maximum service and communications to the oil industry in South Louisiana.

One principle operation to headquarter here will be wireline skid units located on offshore drilling platforms and mobile rigs. This department is under the direction of Dean W. Kelley and includes as field operating engineers, Charles W. Tipps, Doyle J. Prince, J. L. Everett and Ned A. Miller, all trained and experienced in electrical well logging, jet perforating and other wireline services.

Karl Carlson will be manager of barge units designed and equipped for inshore work. These barges have complete living facilities for crews and offer complete wireline services just as the offshore skid units.

Maxon Construction Names Gulf Coast Representative

In a recent personnel move by Maxon Construction Company, W. R. "Bill" Washington was named Gulf Coast representative for the firm's marine division.

Washington

Washington will be headquartered in New Orleans at the International Trade Mart. From here he will service Maxon customers in the Gulf coast region.

Maxon, which has a larger number of customers engaged in offshore operations in the Gulf of Mexico, builds barges of all types for a variety of uses.

Of Gardner-Denver Company Richard Bauer Elected V-P

Richard J. Bauer, regional manager of the oil field division of the Gardner-Denver Company, was recently elected a vice president of the firm at its annual meeting. He will continue to make his headquarters in Dallas.

Bauer has been with the company

(Continued on next page)

Grove Valve and Regulator Company announced further expansion of its field sales engineering staff to include, from the left, A. E. Hildebrand, Los Angeles, California; J. C. Hutchinson, Odessa, Texas; B. W. Bowden, Houston, Texas; and W. S. George, Farmington, New Mexico. The group has just finished an extended orientation and training program at the Grove plant in Oakland, California.

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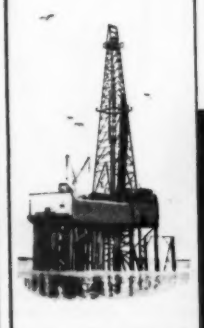

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Service Personalities . . .

(Continued from preceding page)

since June, 1923, working in the engineering department for several years before joining the sales organization. He served in the Chicago, Detroit and St. Louis areas until 1934 when he became special representative in the Dallas office.

Bauer is a member of the Texas Manufacturers Association, the Petroleum Club and the Drilling Contractors Association.

Division engineering offices and laboratories for all South Louisiana are included in the installation headed by W. R. Jay and Lewis A. Cobb. This group will supervise maintenance and engineering for all South Louisiana units and will supervise all jobs of unusual nature or involving specialized tools. Division drafting and printing under Don Robertson will complete the installation.

In order to assure the best communications with all field operations, Welex is installing its own radio station with a 340-ft. antenna tower and a special beam antenna directed to offshore operations.

General offices of Welex, Inc. are located in Fort Worth, Texas.

National Tube Division Names Houston Area Sales Manager

Appointment of T. D. Brissman as manager of sales for the Houston district office of National Tube division was announced by Robert E. Williams, general manager of sales. National tube is a division of United States Steel Corporation.

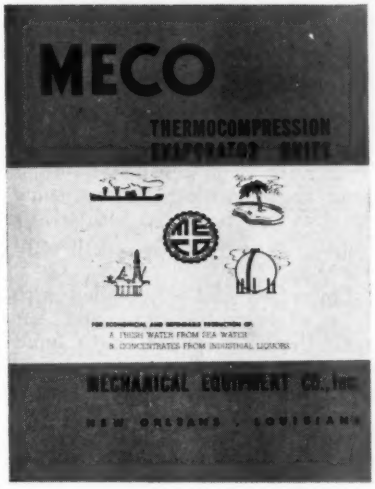
Brissman

Brissman began his business career in the same Houston office 19 years ago, but he transferred to San Antonio as a resident salesman shortly afterward.

Born in St. Paul, Minn., he received a degree in engineering from the University of Minnesota where he captained the 1937 baseball team.

Brissman served National Tube as a salesman in various parts of Texas and New Mexico, before going to Pittsburgh as manager of claims in 1955.

Prior to his latest appointment, he was special representative, oil and gas industry, in New York City.



MECO Booklet Describes Evaporator Distilling Units

A New Orleans firm which produces sea water distilling equipment and equipment for the concentration of industrial products, as well as radioactive wastes, has prepared a new bulletin now available to interested companies.

The bulletin describes the operating principle of thermocompression distilling equipment, contains pictures of numerous models and installations and gives dimensions and weights of the more popular sizes.

This equipment, which will produce pure drinking water from seawater, is available in the form of complete self-contained, packaged units.

For further information, write Mechanical Equipment Company, Inc., 861 Carondelet Street, New Orleans 12, La.

Otis Engineering Offers New Pipe Caliper Service

Otis Engineering Corporation has announced the development of a new "surface" caliper survey service which is designed to detect defective joints in either new or used tubing before the pipe is run into a well. The service is especially recommended for surveying tubing that will be set in corrosive, high-pressure wells, officials of the firm said.

Surveys can be conducted in the customer's pipe yard or on the lease. A special calipering instrument is drawn through the joint to determine the internal condition of the pipe. Feelers on the caliper are in constant contact with the inside wall of the pipe, and as a corrosion pit or a reduction in wall thickness is encountered, outward movement of any one of the feelers causes an electrical signal to be transmitted to a strip-chart recorder. The internal condition of the pipe is immediately logged, and each joint classified and color-coded accordingly.

Pipe can also be cleaned internally and drifted if desired. After the entire lot is surveyed, an Otis corrosion engineer compiles a detailed, permanent report on the classification of each joint.

The firm says that a minimum amount of time is required for the entire operation and that the service is available from any of the Otis branch offices.

For further information write Otis Engineering Corporation, 6612 Denton Drive, Dallas, Texas.

Rector Offers Guide Shoe For Spudding-In Offshore

A special 30-inch guide shoe for spudding in offshore locations with big savings in time has been developed by Rector Well Equipment Company of Fort Worth, Texas. The shoe, butt-welded to a 200-ft. string of casing and operated from a crane barge, uses the jetting action of water forced at 400 psi through holes in the aluminum nose to speed up drilling the conductor string hole through the silt that covers the floor of the Gulf of Mexico.

According to Jerry Pinkard, Rector sales manager, one operator has used the Rector guide shoe to penetrate 120 feet of sand in 53 minutes. The previous method of driving pilings required from three to 15 hours to the same depth.

The special rector guide shoe, believed to be the largest made, has a rib-reinforced aluminum nose that can be drilled out readily when desired depth has been reached. Water forced through holes in the nose provides a jetting action that eliminates the problem of packing sand. Water is pumped into the casing through three 2½ in. hoses.

For further information write Rector Well Equipment Company, Inc., 1100 North Commerce Street, Fort Worth, Texas.

Coating With Built-In Primer Gives Flexible Protection

The coatings division of Charleston Rubber Company, Charleston, South Carolina, has announced a new corrosion-inhibiting, liquid Neoprene protective coating with a built-in primer. As described, it will have multiple uses on offshore platforms and marine transportation equipment.

This new combination primer-coater is known as Charcote CIC-21. It is one of several Charcote protective rubber-coatings now manufactured by exclusive Charleston Rubber Company formulations using a Du-Pont Neoprene base.

A special advantage of Charcote CIC-21 is its built-in primer which saves material and labor costs normally required in application of primer coats. Additional advantages are ease and flexibility of application, excellent long lasting resistance to weathering, chemical fumes, salt spray and corrosion creep; also it has an amazing resistance to impact and abrasion, especially beneficial in the spray and bumper zones of offshore platforms.

Charcote CIC-21 special rubber-coating is available only in red. The standard Charcote protective rubber-coatings now made by Charleston

are available in red, aluminum, black, green and grey. All adhere splendidly and durably to metals, concrete,

(Continued on next page)

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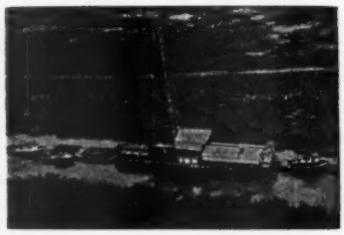

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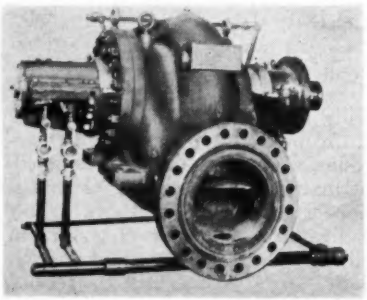
New Products . . .

(Continued from preceding page)

wood, rubber, canvas and other materials. All can be brushed on, rolled on, sprayed or used as a dip.

For further information including illustrated catalog sheets, application instruction sheets and technical bulletins, write the coatings division, Charleston Rubber Company, Stark Industrial Park, Charleston, S. C.



New BJ Gas Turbine Pump For Remote Operations

The first high-speed pipeline pump to use a combustion gas turbine drive for continuous, remote operation has just been announced by Byron Jackson Pumps, Inc., a subsidiary of Borg-Warner Corporation, Los Angeles.

According to N. D. Jesse, vice president and sales manager of Engineered Pump Products, the high-speed turbines are fueled by crude oil directly from the pipelines, and develop 5000 hp to drive the pumps at 5250 rpm.

This compact, simplified design has been developed to provide long operation without maintenance in remote areas, or where reliability is of prime importance.

Pump is of a single-stage, double volute and double suction design. An unusually high head is developed for a single stage pump, with 1600 feet under normal operating conditions.

Weighing 4650 pounds (only 7/8 pound per horsepower), this compact pump measures 5 ft. 1 in. long, 4 ft. wide and 4 ft. high. A unique pump and mechanical seal combination allows up to a 500 pound suction pressure on the start-up in addition to a high developed pressure.

First nine of these pumps have recently been installed on the trans-Arabian pipeline. Pumps operate continuously and completely unattended by remote-controlled radio signals from the permanent stations 50 to 100 miles away.

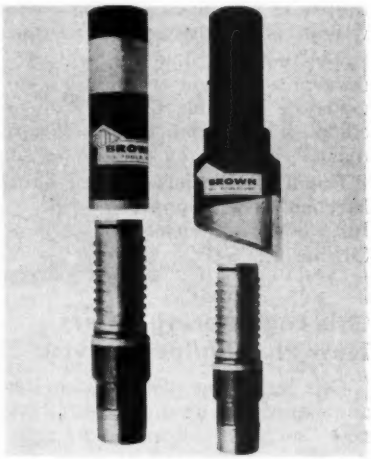
For further information write Byron Jackson Pumps, Inc., P. O. Box 2017A, Terminal Annex, Los Angeles 54, California.

Brown Oil Tools Develops Criss-Cross Fishing Tool

A unique safety joint which affords right hand release and right hand re-engagement for retrieving the fish has been developed by Brown Oil Tools, Inc., Houston, Texas.

Lower pin end is provided with a cc (criss-cross) right and left hand thread to permit right hand release. A trip with the retrieving head which has right hand threads permits re-engagement with the fish by right hand rotation. The mating threads make the connection stronger than a conventional overshot.

The hazard of premature releasing with a strain on the fish while rotating is eliminated. In the event the stuck fish cannot be retrieved, the retrieving head has the safety joint feature in that the retrieving head can be released by left hand rotation. An anti-friction ring prevents making the retrieving head too tight by right hand rotation in order that no difficulty will be experienced releasing the retrieving head with left hand rotation.



The type cc safety joint also incorporates added features of coupling od and full-opening. The retrieving head is provided on a rental basis, domestically and for export.

For further information write Brown Oil Tools, Inc., 2216 Campbell Street, Houston, Texas.

First in offshore history . . .

Quadruple Oiler Completed

CATC finals West Delta Block 30 producer for 1200 barrels of crude from four zones

First quadruple completion in offshore history was announced late last month by the CATC Group.

Using four separate strings of tubing—another first in oil industry history—Continental Oil Company, operator for the CATC combine, obtained a total daily flow of 1200 barrels of oil and 541,000 cubic feet of gas per day from the well.

The history making well is the State 970 No. C-8 located in West Delta Block 30 Field about 10 miles off Plaquemines Parish, La., at the mouth of the Mississippi River. Water depth at the location is 50 ft. It is the eighth well drilled at the site from Brewster Bartle Off-Shore Company's Rig No. 1, a self-contained platform. Ninth well had already been spudded and was setting 13⅜-in. casing at press time.

Operator drilled to a total depth of 12,947 ft. and perforated between 9022 ft. and 9789 ft., testing all four producing zones on an 8/64-in. choke.

Production from the deepest zone at the interval of 9784 ft. to 9789 ft. tested 300 barrels of 29.1-degree gravity oil per day.

Second deepest pay sand, which was perforated at 9539 ft. to 9544 ft., flowed 287 barrels of 26.6-degree gravity oil.

A third producing zone with perforations at the interval of 9282 ft. to 9287 ft. gauged a daily flow of 330 barrels of 31.8-degree gravity crude.

Highest of the four zones at 9022 ft. to 9027 ft. flowed 283 barrels of 31.4-degree gravity oil per day.

West Delta Block 30 Field was discovered in 1949 and now has 27 producers. Continental has 2400 proven acres in the area out of a possible 5200 productive acres.

The C-8 well, which was spudded February 4, extends the southern edge of the field.

Significant is the fact that only three days prior to the quadruple completion, Continental finaled its ninth triple producing oil well of 1958 just 1300 ft. away.

Hunt Oil Co. Completes First 1958 Oil Discovery off Texas

A new oil field has been discovered off Jefferson County, Texas, by Hunt Oil Company, Dallas.

Hunt drilled the wildcat to a total depth of 9915 ft. on a 640-acre lease seven miles southwest of Sabine in State Tract 20-S.

The new oiler flowed 150 barrels of crude per day on a ⅛-inch choke from perforations at the interval of 7189 to 7193 ft.

Operator recorded a tubing pressure of 1000 pounds and a shut in pressure of 1200 pounds.

The discovery was drilled in 20-ft. water by Penrod Drilling Company, contractor.

EXPLORATION

Consolidated West on Again With Two Lake Erie Gassers

Holder of one of the highest batting averages for offshore drilling operations, Consolidated West Petroleum Limited has added two new gas wells to its Lake Erie total.

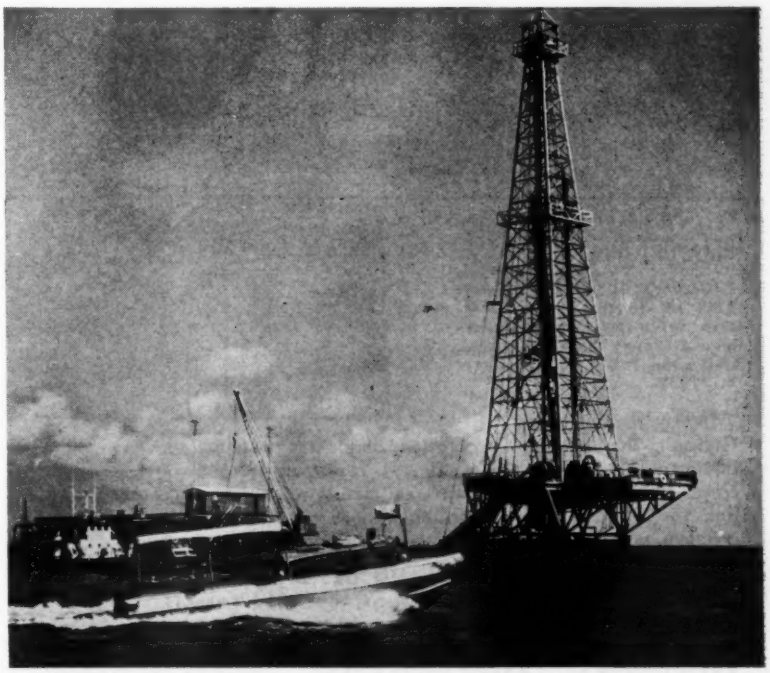
Getting off to an early start when favorable spring weather brought an end to the dangerous ice floes that halted operations last fall, the Canadian operator has already completed wells No. 13 and No. 14 on its Mining License or exploratory area.

Well No. 13, located five miles from shore, extends production one mile east from Well No. 11. Flow taken on an open choke gauged in excess of 300,000 cubic feet of gas per day.

Well No. 14 was completed one-half mile south of well No. 13, yielding an open flow of 500,000 cubic feet of gas daily. At last report, No. 15 was drilling ahead, and location had been made for No. 16.

On the lease area, the company

(Continued on next page)



A Venezuelan Sun Oil Company platform has completed SVS No. 12 in Lake Maracaibo's Block No. 1 as a dual oil producer after encountering 1250 ft. of oil bearing sands. Well made 5200 barrels of oil per day through perforations between 9090 ft. and 9385 ft. and 5160 barrels per day from a lower zone. Developing the concession for a combine rounded out by Venezuelan Atlantic Refining Company and the Texaco Seaboard Inc. group, Venezuelan Sun has also gauged 5280 barrels per day at its newly completed SVS No. 11 well. Both completions followed closely in the wake of SVS No. 9 and SVS No. 10.

Exploration . . .

(Continued from preceding page)

has struck gas in its No. 35 well and was drilling around the 1000-ft. mark at No. 36 well.

The company will drill its No. 37 effort as a test of the Trenton formation which it expects to encounter at about 2600 feet. At the present time there are no wells producing from this formation in the Tilbury field.

Consolidated West created quite a record for itself from 1943 to 1956 when it completed 45 of 46 efforts as gas producers. Drilling operations were conducted with a cable tool type rig mounted on a wooden platform.

A subsidiary of Consolidated West, Underwater Gas Developers Limited, has completed two wells on a contract basis for other firms in the lake this season.

Gulf of Paria Wildcat Finaled As Two-Zone Oil Producer

Paria Operations, Inc. has completed a wildcat in the Gulf of Paria as a dual oil well.

L. F. McCollum, president of Continental Oil Company, confirmed that oil of about 20-degree gravity had been found in commercial quantities.

Continental holds part interest in Paria Operations along with Richfield Oil Corporation, The Texas Company, Ohio Oil Company, and Cities Service Oil Company.

The well, designated the Posa 112-1, was drilled in 80 ft. of water and production was obtained between 4000 and 5000 ft.

Paria Operations is now drilling a second wildcat on the lease which was obtained from Venezuela for $102 million.

California Wildcat Spudded From Artificial Peninsula

On a filled site being used to develop the Redondo Beach, Calif., tidelands, Signal Oil and Gas Company has spudded in the first onshore exploratory oil well.

The well, designated Signal-Reserve-ABCSM No. 37 (II-I), will be directionally drilled to a bottom hole location within a 21-acre unit which is part of a 200-acre town lot lease.

It was about a year ago that Signal began drilling the first of 24 offshore wells planned from one extended shoreline site on the seaward tip of Santa Monica Bay. (See OFFSHORE, August, 1957, Page 44).

Six wells were completed from a similar artificial peninsula in the area.

The Redondo Beach operation is a joint venture of Signal, Reserve Oil and Gas Company, Redondo Exploration Company, and the ABCSM group made up of Anderson Pritchard Oil Corporation, Bandini Petroleum Company, American Climax Petroleum Corporation, Southern California Petroleum Corporation and Merchants Petroleum Corporation.

Odeco's Texas Wildcat Proposed for 10,000 Ft.

A proposed 10,000-ft. wildcat has been staked offshore from Jefferson County, Texas, by Ocean Drilling and Exploration Company of New Orleans.

Sixth well to be staked off Jefferson County in 1958, the exploratory effort has been designated the No. 1 State Lease 41140.

Location is 23 miles west of Port Arthur, Texas, on a 5760-acre lease in State Block No. 8.

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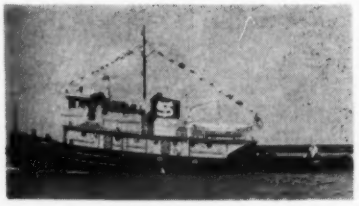

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OFFSHORE LOCATIONS

TEXAS

Jefferson County

Nelson Bunker Hunt Trust Est. 1 State Tract 5-L, Wildcat, Gulf of Mexico, State Tract 5-L. Proposed Depth 10,000 feet.

Ocean Drilling and Exploration Company 1 State Lease 41140, Wildcat, Gulf of Mexico, Block 8. Proposed Depth 10,000 feet.

The Texas Company 1 State Tract 80, Wildcat, Gulf of Mexico, State Tract 80. Proposed Depth 8,000 feet.

Union Oil and Gas Corporation of Louisiana 1 State Lease 41153, Wildcat, Gulf of Mexico, State Tract 84-S. Proposed Depth 8,000 feet.

LOUISIANA

Cameron Parish

Magnolia Petroleum Company A-6 (OCS-089), State Lease 1202, East Cameron Block 64. Block 64, East Cameron Area. Proposed Depth 12,000 feet.

Natural Gas and Oil Company 5 State Lease 1172, East Cameron Block 4. Block 4, East Cameron Area. Proposed Depth 14,000 feet.

Phillips Petroleum Company A-1 (OCS-0224), State Lease 1436, West Cameron Block 40. Block 40, West Cameron Area. Proposed Depth 14,000 feet.

Iberia Parish

The Texas Company 25 (OCS-0310), State Lease 340, Rabbit Island. From USC&GS Station "Island" go S 21 deg 57 min E 43,223′ Proposed Depth 13,000 feet.

Jefferson Parish

Continental Oil Company A-10 (OCS-0133), State Lease 953, Grand Isle Block 47. Block 47, Grand Isle Area. Proposed Depth 10,200 feet.

C-5 (OCS-0133), State Lease 953, Grand Isle Block 47. Block 47, Grand Isle Area. Proposed Depth 11,150 feet.

Humble Oil and Refining Company J-15 (OCS-031), State Lease 803, Grand Isle Block 16. Block 23, Grand Isle Area. Proposed Depth 8,500 feet.

La Fourche Parish

The California Company 25 State Lease 1365, Bay Marchand Block 2. Block 1, Bay Marchand Area. Proposed Depth 8,250 feet.

T-4 State Lease 1365, Bay Marchand Block 2. Block 1, Bay Marchand Area. Proposed Depth 7,400 feet.

T-5 State Lease 1365, Bay Marchand Block 2. Block 1, Bay Marchand Area. Proposed Depth 6,200 feet.

S-8 (OCS-0386), State Lease 1024, Bay Marchand Block 2. Block 23, Bay Marchand Area. Proposed Depth 8,150 feet.

2 (OCS-0390), State Lease 932, Bay Marchand Block 2. Block 26, Grand Isle Area. Proposed Depth 11,500 feet.

1 (OCS-0387), State Lease 1424, Bay Marchand Block 2. Block 24, South Timbalier Area. Proposed Depth 12,000 feet.

Gulf Oil Corporation 2 (OCS-0263), State Lease 1423, South Timbalier Block 21. Block 21, South Timbalier Area. Proposed Depth 12,000 feet.

Humble Oil and Refining Company B-1 (OCS-020), State Lease 1038, South Timbalier Block 54. Block 67, South Timbalier Area. Proposed Depth not given.

Check for $5000 is received by Elton D. Phillips (second from left), business manager for the University of Southern California, from Thomas Jeffers, manager of Robertshaw-Fulton Western Research Center at Anaheim, Calif. The grant will help equip USC's new Petroleum-Chemical engineering building seen in the background. Looking on are USC officials George T. Harness, left, and Kenneth A. Williard, right.

Plaquemines Parish

An-Son Offshore Drilling Company 1 State Lease 2752, Main Pass Block 48, Wildcat. Block 48, Main Pass Area. Proposed Depth 10,000 feet.

The California Company 4 State Lease 2552, Burrwood. From USC&GS Station "Southwest Pass Litehouse" go S 13 deg 15 min 20 sec E 9877.1′. Proposed Depth 9,520 feet.

I-1 (OCS-0371), State Lease 1277, Main Pass Block 69. Block 68, Main Pass Area. Proposed Depth 8,400 feet.

I-2 (OCS-0371), State Lease 1277, Main Pass Block 69. Block 68, Main Pass Area. Proposed Depth 5,550 feet.

I-3 (OCS-0383), State Lease 1354, Main Pass Block 69. Block 68, Main Pass Area. Proposed Depth 8,100 feet.

5 State Lease 2589, South Pass Block 5. Block 5, South Pass Area. Proposed Depth 10,500 feet.

1 H. B. Howcott, et al South Pass Block 24. Block 24, South Pass Area. Proposed Depth 8,600 feet.

2 H. B. Howcott, et al South Pass Block 24. Block 24, South Pass Area. Proposed Depth 8,600 feet.

3 H. B. Howcott, et al South Pass Block 24. Block 24, South Pass Area. Proposed Depth 8,600 feet.

F-10 (OCS-0385), State Lease 1069, West Delta Block 30. Block 29, West Delta Area. Proposed Depth 6,800 feet.

F-11 (OCS-0385), State Lease 1069, West Delta Block 30. Block 29, West Delta Area. Proposed Depth 12,200 feet.

G-3′ (OCS-0385), State Lease 1069, West Delta Block 30. Block 29, West Delta Area. Proposed Depth 10,600 feet.

1 State Lease 1922, West Delta Block 83. Block 83, West Delta area. Proposed Depth 10,100 feet.

Cities Service Producing Company 1 State Lease 2715, Main Pass Block 45, Wildcat. Block 45, Main Pass Area. Proposed Depth 10,000 feet.

Continental Oil Company E-5 (OCS-0138), State Lease 970, West Delta Block 30. Block 45, West Delta Area. Proposed Depth 10,000 feet.

20 State Lease 978, West Delta Block 53. Block 53, West Delta Area. Proposed Depth 10,300 feet.

Hassie Hunt Trusts, et al 1 St-Harvey "C" Tr 4 South Pass Block 24. Block 24, South Pass Area. Proposed Depth 9,800 feet.

3 St-Harvey "C" Tr 1 South Pass Block 24. Block 24, South Pass Area. Proposed Depth 9,030 feet.

4 St-Harvey "C" Tr 1 South Pass Block 24. Block 24, South Pass Area. Proposed Depth 9,800 feet.

13 State Lease 2484, South Pass Block 24. Block 24, South Pass Area. Proposed Depth 10,000 feet.

D-19 State Lease 2484, South Pass Block 24. Block 24, South Pass Area. Proposed Depth 9,800 feet.

Phillips Petroleum Company 1 State Lease 2751, Main Pass Block 49, Wildcat. Block 49, Main Pass Area. Proposed Depth 10,100 feet.

Rimrock-Tidelands 1 State Lease 2751, Main Pass Block 49, Wildcat. Block 49, Main Pass Area. Proposed Depth 10,100 feet.

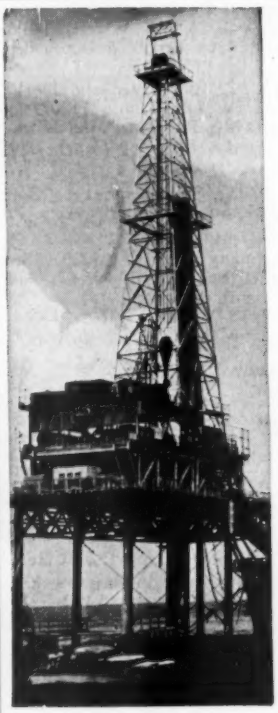
Shell Oil Company 21 State Lease 1355, Main Pass Block 69. Block 69, Main Pass Area. Proposed Depth 7,600 feet.

27 State Lease 1357, Main Pass Block 69. Block 69, Main Pass Area. Proposed Depth 8,150 feet.

5 State Lease 988, Main Pass Block 69. Block 1, South Pass Area. Proposed Depth not given.

68 State Lease 998, South Pass Block 24. Block 11, South Pass Area. Proposed Depth 8,000 feet.

69 State Lease 998, South Pass Block 24. Block 11, South



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Pass Area. Proposed Depth 8,000 feet.

70 State Lease 998, South Pass Block 24. Block 11, South Pass Area. Proposed Depth 8,000 feet.

71 State Lease 998, South Pass Block 24. Block 11, South Pass Area. Proposed Depth 8,000 feet.

B-36 State Lease 1388, South Pass Block 24. Block 11, South Pass Area. Proposed Depth 8,000 feet.

46 (OCS-0350), State Lease 1008, South Pass Block 24. Block 24, South Pass Area. Proposed Depth 9,500 feet.

B-24 (OCS-0349), State Lease 1007, South Pass Block 27. Block 23, South Pass Area. Proposed Depth 7,650 feet.

28 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 8,000 feet.

32 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 8,000 feet.

33 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 7,500 feet.

34 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 6,950 feet.

35 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 7,400 feet.

St. Bernard Parish

Cities Service Production Company 1 State Lease 3332, Breton Sound Block 3, Wildcat. Block 3, Breton Sound Area. Proposed Depth 8,500 feet.

St. Mary Parish

Shell Oil Company A-2 (OCS-0445), Eugene Island Block 175. Block 176, Eugene Island Area. Proposed Depth 12,500 feet.

A-3 (OCS-0443), Eugene Island Block 188. Block 188, Eugene Island Area. Proposed Depth 11,600 feet.

Terrebonne Parish

Kerr-McGee Oil Industries H-1 (OCS-0346), State Lease 750, Ship Shoal Block 28. Block 28, Ship Shoal Area. Proposed Depth 14,500 feet.

Magnolia Petroleum Company H-1 (OCS-060), State Lease 766, Ship Shoal Block 72. Block 72, Ship Shoal Area. Proposed Depth 12,000 feet.

Sinclair Oil and Gas Company 1 (OCS-0440), Ship Shoal Block 154. Block 153, Ship Shoal Area. Proposed Depth 10,000 feet.

Vermilion Parish

The California Company B-2 (OCS-0492), Vermilion Block 164. Block 164, Vermilion Area. Proposed Depth 6,500 feet.

Shell Oil Company 1-S (OCS-0449), Vermilion Block 164. Block 179, Vermilion Area. Proposed Depth 600 feet.

OFFSHORE COMPLETIONS

LOUISIANA

Cameron Parish

Continental Oil Company A-6 (OCS-0163), State Lease 1208, East Cameron Block 71. New Gas Pay. Total Depth 10,385 feet. Perfs 10,041-050 feet and 10,028-036 feet. PT 4,960,000 CFGPD on 12/64-inch choke. TP 6,725 pounds, Grav. 48.7, GLR 133,000-1. Block 71, East Cameron Area. Contractor, Reading and Bates.

1 (OCS-0413), East Cameron Block 115. Dry. Total Depth 7,400 feet. Block 115, East Cameron Area. Contractor, Reading and Bates.

Magnolia Petroleum Company A-1 (OCS-089), State Lease 1202, East Cameron Block 64. Dual Gas. Total Depth 12,916 feet. Perfs 10,294-306 feet. PT 75.60 BOPD plus 2,949,000 CFGPD on 11/64-inch choke. TP 5,005 pounds, Grav. 50.9, GLR 39,011-1. Perfs 9804-16 feet. PT 98.55 BOPD plus 3,452,000 CFGPD on 13/64-inch choke. TP 4,775 pounds, Grav. 49, GLR 35,026-1. Block 64, East Cameron Area.

John W. Mecom 1 State Lease 1571, West Cameron Block 9. Dry. Total Depth 14,147 feet. Block 9, West Cameron Area. Company Tools.

Shell Oil Company A-2 (OCS-0406), West Cameron Block 192. Dry. Total Depth 10,251 feet. Block 82, East Cameron Area. Company Tools.

Union Oil Company of California 1 (OCS-0259), West Came-

ron Block 67, Wildcat. Oil. Total Depth 13,078 feet. Perfs 11,345-355 feet. PT 107 BOPD plus 5,325,000 CFGPD on 16/64-inch choke. TP 3,720 pounds, Grav. 41, GOR 49,750-1. Block 67, West Cameron Area. Contractor, Offshore Company.

Iberia Parish

The Texas Company 7 (OCS-0316), Eugene Island Block 47. Dry. Total Depth 10,350 feet. Block 26, Eugene Island

Jefferson Parish

Continental Oil Company B-6 (OCS-0128), State Lease 948, Grand Isle Block 47. Dual Oil and Gas. Total Depth 11,453 feet. Perfs 11,374-382 feet. PT 187 BOPD and 147,000 CFGPD on 8/64-inch choke. TP 1,600 pounds, Grav. 33.2, GOR 785-1. Perfs 11,038-046, 11,056-062 and 11,070-075 feet. PT 47 BOPD and 2,210,000 CFGPD on 12/64-inch choke. TP 3,550 pounds, Grav. 47, GLR 47,-000-1. Block 40, Grand Isle Area. Contractor, Rowan Drilling Company.

A-9 (OCS-0133), State Lease 953, Grand Isle Block 47. Dry. Total Depth 12,458 feet. Block 47, Grand Isle Area. Contractor, Loffland Brothers.

La Fourche Parish

The California Company 24, State Lease 1365, Bay Marchand Block 2. Oil. Total Depth 8,270 feet. Perfs 8071-8107 feet. PT 280 BOPD and 166,000 CFGPD on 10/64-inch choke. TP 1,150 pounds, Grav. 26.1, GOR 593-1. Block 1, Bay Marchand Area. Contractor, Rowan Drilling Company.

T-3, State Lease 1365, Bay Marchand Block 2. Oil. Total Depth 8,286 feet. Perfs 8077-8126 feet. PT 270 BOPD and 157,000 CFGPD on 12/64-inch choke. TP 950 pounds, Grav. 30.6, GOR 580-1. Block 1, Bay Marchand Area. Contractor, Noble Drilling Company.

23 State Lease 1365, Bay Marchand Block 2. Oil. Total Depth 6,514 feet. Perfs 5890-5902 feet. PT 200 BOPD and 213,000 CFGPD on 12/64-inch choke. TP 875 pounds, Grav. 27.6, GOR 1065-1. Block 2, Bay Marchand Area. Contractor, Rowan Drilling Company.

S-5 (OCS-0369), State Lease 1366, Bay Marchand Block 2. Gas. Total Depth 8,179 feet. Perfs 7368-84-feet. PT, TP, Grav., GLR not given. Block 2, Bay Marchand Area. Contractor, Loffland Brothers

T-2 State Lease 1365, Bay Marchand Block 2. Oil. Total Depth 7,368 feet. Perfs 6981-7016 feet. PT 199 BOPD and 55,000 CFGPD on 12/64-inch choke. TP 300 pounds, Grav. 21, GOR 277-1. Block 2, Bay Marchand Area. Contractor, Noble Drilling Company.

4 (OCS-0386), State Lease 1024, Bay Marchand Block 2. Dry. Total Depth 8,358 feet. Block 23, South Timbalier Area.

Gulf Oil Corporation A-3 (OCS-0456), South Timbalier Block 131. Dual Oil. Total Depth 8,558 feet. Perfs 8355-64 feet. PT 284 BOPD and 143,000 CFGPD on 9/64-inch choke. TP 1,225 pounds, Grav. 38.8, GOR 505-1. Perfs 7997-8001 feet. PT 167 BOPD and 111,000 CFGPD on 9/64-inch choke. TP 1,200 pounds, Grav. 39, GOR 678-1. Block 130, South Timbalier Area. Contractor, Salt Dome Production Company.

C-2 (OCS-0461), South Timbalier Block 135. Dry. Total Depth 12,500 feet. Block 135, South Timbalier Area. Contractor, Penrod Drilling Company.

Phillips Petroleum Company 1 (OCS-0227), State Lease 1426, South Timbalier Area Block 28, Wildcat. Dry. Total Depth 13,920 feet. Block 28, South Timbalier Area. Contractor, Kerr-McGee Oil Industries.

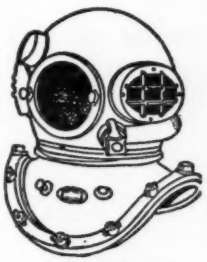
Plaquemines Parish

The California Company 28 G. T. Armstrong 2 et al, South Pass Block 24. Oil. Total Depth 7,950 feet. Perfs 7838-60 feet. PT 87 BOPD on 10/64-inch choke. TP 400 pounds, Grav. not given, GOR 161-1. Block 24, South Pass Area. CA-2 (OCS-0385), State Lease 1069, West Delta Block 30. Oil. Total Depth 11,902 feet. Perfs 11,178-246 feet. PT 196 BOPD and 196,000 CFGPD on 8/64-inch choke. TP 1,750 pounds, Grav. not given, GOR 970-1. Block 29, West Delta Area.

F-5 (OCS-0385), State Lease 1069, West Delta Block 30. Dual Oil. Total Depth 9,536 feet. Perfs 9048-68 feet. PT 192 BOPD on 9/64-inch choke. TP 456 pounds, Grav. not given, GOR 1240-1. Perfs 8471-8502 feet. PT 220 BOPD on 9/64-inch choke. TP 1,325 pounds, Grav. not given, GOR 795-1. Block 29, West Delta Area. Contractor, Loffland Brothers.

1 State Lease 1922, West Delta Block 83. Oil. Total Depth 10,580 feet. Perfs 10,396-414 feet. PT 430 BOPD on 10/64-inch choke. TP 2,050 pounds, Grav 34.9, GOR 793-1. Block 83, West Delta Area. Contractor Bateman Drilling.

Continental Oil Company E-4 (OCS-0138), State Lease 970,



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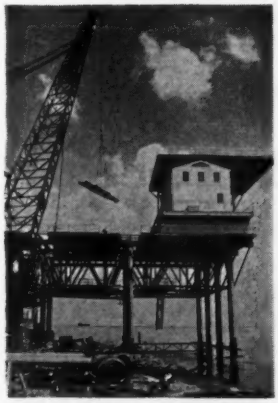

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West Delta Block 30. Dual Gas-Oil. Total Depth 11,531 feet. Perfs 7351-56 feet. PT 25 BOPD and 1,496,000 CFGPD on 12/64-inch choke. TP 2,550 pounds, Grav. 53.4 GLR 59,156-1. Perfs 6775-80 feet. PT 116 BOPD and 29,000 CFGPD on 10/64-inch choke. TP 400 pounds, Grav. 22.7, GOR 249-1. Block 45, West Delta Area. Contractor, Nicklos Drilling Company.

Hassie Hunt Trusts, et al 12, State Lease 2484, South Pass Block 24. Dual Oil. Total Depth 9,010 feet. Perfs 8556-64 feet. PT 238 BOPD on 9/64-inch choke. TP 1,450 pounds, Grav. not given, GOR 752-1. Perfs 8379-84 feet. PT 227 BOPD on 9/64-inch choke, TP 1,250 pounds, Grav. 33.1, GOR 478-1. Block 24, South Pass Area. Contractor, Penrod Drilling Company.

Humble Oil and Refining Company J-7 (OCS-026), State Lease 819, West Delta Block 30. Oil. Total Depth 8,650 feet. Perfs 6238-43 feet. PT 33 BOPD on ¼-inch choke. TP nil, Grav. 25, GOR nil. Block 30, West Delta Area. Company Tools.

Magnolia Petroleum Company G-1 (OCS-060), State Lease 766, Ship Shoal Block 72. Dry. Total Depth 12,306 feet. Block 72, Ship Shoal Area. Company Tools.

Shell Oil Company 3 State Lease 2636, Lake Washington. Abandoned Location. Block 1, West Delta Area.

5 State Lease 988, Main Pass Block 69. Dry. Total Depth 8,401 feet. Block 1, South Pass Area.

26 State Lease 1357, Main Pass Block 69. Oil. Total Depth 8,305 feet. Perfs 8011-26 feet. PT 202 BOPD on 9/64-inch choke. TP 1,060 pounds, Grav. 27.8, GOR nil. Block 69, Main Pass Area.

C-16, South Pass Block 24. Oil. Total Depth 8,685 feet. Perfs 8644-47 feet and 8649-59 feet. PT 166 BOPD and 103,000 CFGPD on 8/64-inch choke. TP 875 pounds, Grav 31.4, GOR 613-1. Block 24, South Pass Area.

B-23 (OCS-0349), State Lease 1007, South Pass Block 27. Oil. Total Depth 7,005 feet. Perfs 6846-61 feet. PT 116 BOPD and 8,100 CFGPD on 7/64-inch choke. TP 550 pounds, Grav. 25, GOR 697-1. Block 23, South Pass Area.

B-24 (OCS-0349), State Lease 1007, South Pass Block 27. Oil. Total Depth 7,654 feet. Perfs 7522-37 feet. PT 188 BOPD on 16/64-inch choke. TP 250 pounds, Grav. 25.5, GOR 707-1. Block 23, South Pass Area.

22 (OCS-0353), State Lease 1012, South Pass Block 27. Gas. Total Depth 12,491 feet. Perfs 9367-69 feet. PT 14 BOPD and 1,583,000 CFGPD on 9/64-inch choke. TP 3,300 pounds, Grav. 58, GOR not given. Block 28, South Pass Area.

B-19 (OCS-0350), State Lease 1008, South Pass Block 27. Oil. Total Depth 6,650 feet. Perfs 6506-16 feet. PT 186 BOPD and 82,000 CFGPD on 13/64-inch choke. TP 425 pounds, Grav. 24.8, GOR 427-1. Block 24, South Pass Area.

Company presidents Guy J. Coffey of Chicago Pneumatic Tool Company and Ken W. Davis of Harrisburg Sales and Service, Inc. announce the formation of a new Texas corporation to be called CP-Harrisburg, Inc., with Davis as president. The new company will handle world-wide distribution of Chicago Pneumatic oil field products.

12 (OCS-0353), State Lease 1012, South Pass Block 27. Oil. Total Depth 8,000 feet. Perfs 7744-64 feet. PT 251 BOPD and 100,000 CFGPD on 9/64-inch choke. TP 1,025 pounds, Grav. 25.7, GOR 390-1. Block 28, South Pass Area.

27 (OCS-0353), State Lease 1012, South Pass Block 27. Oil. Total Depth 7,528 feet. Perfs 7430-45 feet. PT 200 BOPD on 9/64-inch choke. TP 625 pounds, Grav. 25.8, GOR 320-1. Block 28, South Pass Area.

The Texas Company 6, State Lease 1464, Lake Washington. Dry. Total Depth 3,724 feet. From USC&GS Station "Wash" go N 72 deg 55 min 40 sec E 9619.7'.

St Bernard Parish

Cities Service Production Company 1 State Lease 3332, Breton Sound Block 3, Wildcat. Dry. Total Depth 9,000 feet. Block 3, Breton Sound Area. Contractor, Penrod Drilling Company.

St. Mary Parish

Magnolia Petroleum Company C-4 (OCS-053), State Lease 695, Eugene Island Block 128. Abandoned Location. Block 28, Eugene Island Area.

Placid Oil Company 1 (OCS-0475), Eugene Island Block 128. Abandoned Location. Block 117, Eugene Island Area.

Pure Oil Company 3 (OCS-0196), State Lease 832, Eugene Island 32. Oil. Total Depth 6,583 feet. Perfs 6418-34 feet. PT 98 BOPD on 8/64-inch choke. TP 960 pounds, Grav. 39.2, GOR 475-1. Block 32, Eugene Island Area. Contractor, Kerr-McGee Oil Industries.

Shell Oil Company A-1 (OCS-0445), Eugene Island Block 175. Dry. Total Depth 9,134 feet. Block 176, Eugene Island Area.

A-1 (OCS-0443), Eugene Island Block 188. Temporarily Abandoned. Total Depth 12,653 feet. Block 188, Eugene Island Area. Contractor, Loffland Brothers.

Terrebonne Parish

Anderson-Prichard, et al A-1 (OCS-0490), Ship Shoal Block 174, Wildcat. Dry. Total Depth 15,015 feet. Block 174, Ship Shoal Area. Contractor, Deepwater Exploration Company.

Gulf Oil Corporation E-10 (OCS-0420), Ship Shoal Block 154. Dual Oil. Total Depth 5,373 feet. Perfs 4903-09 feet and 4884-88 feet. PT 154 BOPD and 305,000 CFGPD on 10/64-inch choke. TP 975 pounds, Grav. 28.2, GOR 1982-1. Perfs 4730-45 feet. PT 145 BOPD and 278,000 CFGPD on 9/64-inch choke. TP 1,350 pounds, Grav. 26.8, GOR 1920-1. Block 154, Ship Shoal Area. Contractor, Dixilyn Drilling.

E-17 (OCS-0420), Ship Shoal Block 154. Oil. Total Depth 7,403 feet. Perfs 5660-69 feet. PT 79 BOPD and 217,000 CFGPD on 12/64-inch choke. TP 130-190 pounds, Grav 24.5, GOR not given. Block 154, Ship Shoal Area.

Humble Oil and Refining Company D-3 (OCS-028), State Lease 1036, South Timbalier Block 54. Oil. Total Depth 13,000 feet. Perfs 20/11,004-09 feet. PT 263 BOPD and 664,000 CFGPD on 8/64-inch choke. TP 3,400 pounds, Grav. 34.4, GOR 4205-1. Block 54, South Timbalier Area.

Kerr-McGee Oil Industries, Inc. G-1 (OCS-0346), State Lease 750, Ship Shoal Block 28. Gas. Total Depth 14,350 feet. Perfs 14,196-230 feet. PT 732 BOPD and 9,000,000 CFGPD on 22/64-inch choke. TP 3,900 pounds, Grav. 49, GLR 12,296-1. Block 28, Ship Shoal Area. Company Tools.

The Texas Company 2 State Lease 2985, Caillou Island. Temporarily Abandoned. Total Depth 11,210 feet. Block 16, South Timbalier Area.

Union Oil California-LL&E 12 State Lease 2826, Caillou Island. Dual Oil. Total Depth 14,760 feet. Perfs 14,371-396 feet. PT 168 BOPD and 157,000 CFGPD on 7/64-inch choke. TP 1,950 pounds, Grav. 31.4, GOR 935-1. Perfs 11,813-823 feet. PT 161 BOPD and 102,000 CFGPD on 7/64-inch choke. TP 1,575 pounds, Grav. 34.4, GOR 634-1. From USC&GS Station "King 2-1934" go N 60 deg 58 min 42 sec E 15,362.10 feet. Contractor, Gracey-Hellums Drilling Company.

13, State Lease 2826, Caillou Island. Oil. Total Depth 12,200 feet. Perfs 11,864-879 feet. PT 168 BOPD and 112,000 CFGPD on 7/64-inch choke. TP 1,950 pounds, Grav 32.3, GOR 667-1. From USC&GS Station "King 2-1934" go N 81 deg 32 min 45 sec E 16,293.47 feet. Contractor, Carnes Weaver.

Union Oil California—Monterey Oil Company 1 State Lease 3195, Lake Pelto. Dry. Total Depth 12,900 feet. From USC&GS Station "Pelto-1934" go N 42 deg 0 min E 8,700 feet.

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Palm trees will be used to beautify Richfield's new drilling island lying 3000 ft. off the California coast in 46-ft. waters near Punta Gorda. An acre of working space is provided for drilling up to 68 wells.

An acre for 68 wells . . .

Drilling Isle Nears Completion

Requiring a year and a half and $1.5 million to complete, Richfield's Pacific island readies for its first wildcat

RICHFIELD Oil Corporation will soon begin the first of 68 wells to be drilled from its new man made island in the California tidelands.

Nearing completion after nearly a year and half in the building, the unique artificial island will provide an acre of working space from which Richfield can develop its 1175-acre State lease.

Designed by John A. Blume & Associates of San Francisco, it was built by Guy F. Atkinson Company at a total cost of $1.5 million.

Sides of the island slope downward to the water so that it takes in three acres at the water line.

Its strong side faces westward into a sea which may bring 20-ft. waves that buffet the structure with terrific force. To prevent run up of water, the seaward side was built 41 feet above the water line. The other three sides protrude out of the water 24 ft.

Lying 3000 ft. off the coast in 46-ft. water near Punta Gorda, the island will be connected to the shore by a causeway.

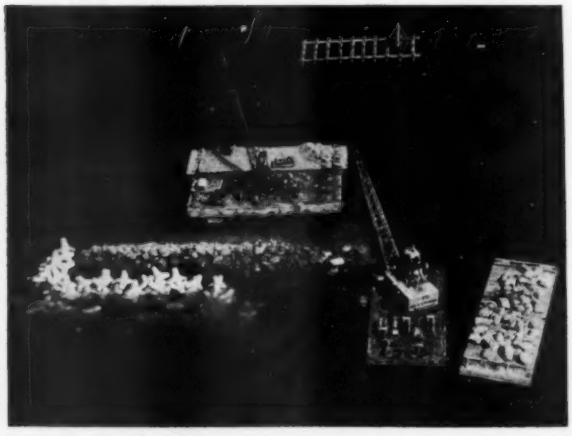
Honeycombing the rock, cement and earthen structure are pipes through which wells can be slant drilled to all parts of Richfield's offshore lease.

But had it not been for slowly developing legislation which has held up drilling operations in the California tidelands, the island might never have come into being.

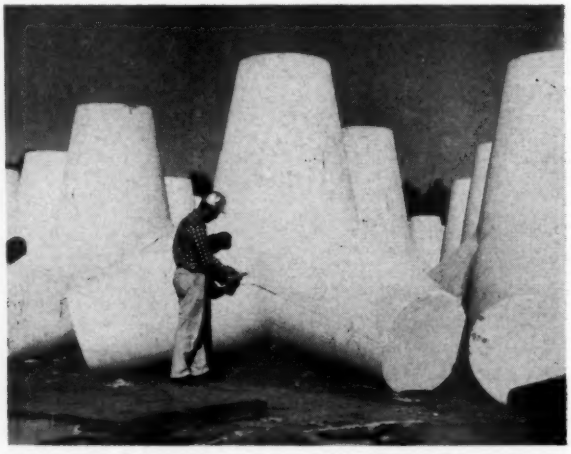
At the time Richfield obtained the lease in 1954, a court decision required that offshore drilling structures be built from natural materials —such as the sand and rock which Richfield chose for their island.

Since then, legislation has overthrown that ruling, paving the way for steel platforms similar to those used in the Gulf of Mexico.

A $2.3 million stationery steel platform was recently completed and positioned on a 5500-acre Standard-



Picture taken during early stages of construction shows tetrapods rising out of the water as derrick barges unload more rock and tetrapods for the 465-ft. seawall. Two derrick barges and a fleet of rock barges carried out this phase of construction.



Tetrapods weighing 31 tons were used for the western seawall, because their prongs will interlock and prevent sliding action. More than 1000 of these eleven-ft.-high, four-legged structures were used.

Humble lease off Summerland, California.

Standard Oil Company of California, Western Operations, Inc. will use the platform for drilling up to 25 wells in 100 feet of water.

Richfield's island will offer several advantages over steel structures. In the first place, it provides greater working space than steel platforms as exhibited by the 68-well-capacity feature; secondly, maintenance problems can be held to a minimum, and it is definitely one offshore structure that will not be bothered by corrosion.

Construction got underway in February, 1957, when the first load of rock was barged to the watery site marked by buoys and dumped into 46-ft. water.

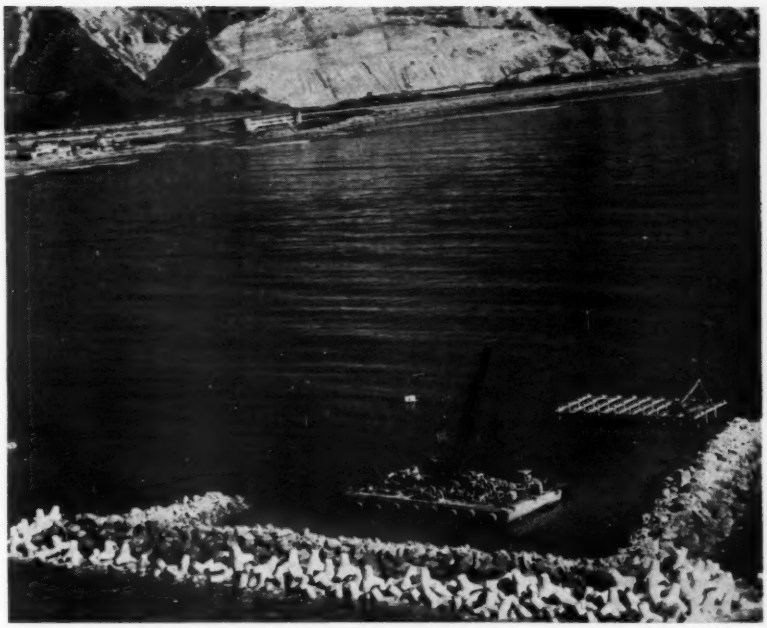
Huge rocks for the sea wall, weighing up to 25 tons, were quarried in Rincon canyon about five miles inland from the coast, barged to the site, and pushed overboard with bulldozers.

The operation was carried out with two derrick barges and a fleet of rock barges.

Rocks were mined by drilling holes about four feet in diameter into the face of a cliff and packing from five to fifteen tons of ammonium nitrate explosive at the ends.

When the explosive is detonated, the cliff face comes thundering down. Just fourteen such holes provided ample rock for a year's construction operations on the island.

Designing the seaward side to withstand the terrific wave forces and ground swells required special engineering.



Seawall faces westward into the Pacific Ocean which may bring 20-ft. waves. Beyond the mountains, rising up in the distance, Guy F. Atkinson Company quarried huge rocks for the fill.

Guy F. Atkinson Company, contractor, decided to use tetrapods.

These huge concrete blocks with an earthen center have four symmetrical prongs about three feet thick radiating outward. Prongs interlock to prevent sliding. They offer great resistance to undertows that might dislodge plain rocks.

More than 1000 of these eleven-ft.-high, 31-ton blocks went into construction of the island's seawall.

Laying the stones and tetrapods was such a precision operation that skin divers using launch-mounted fathometers checked individual pieces as they were laid.

Upon completion, the island will be an inverted filter in design with a center made up of finer grained sand encased by rock that increases in size toward the outside. Such a structure prevents the earthen fill from filtering out.

The island is made up of 400,000 tons of rock and 126,000 tons of earthen fill. The west side measures 465 ft. long, and the axis are 290-ft. in length.

Along the eastern end is a 100-ft. by 40-ft. dock built at an elevation of 16 ft.

A 3000-ft. causeway built by Healy-Tibbits Co. connects with the shore, and over it supplies and drilling material will be transported to the island.

Drilling will be conducted with a portable mast that can be removed when drilling operations are concluded, and drilling power will be provided with gasoline engines. Electric motors are to be used for operating production facilities.

Richfield will beautify the island by planting shrubs and palm trees along the edges, and will conceal wellheads so they will not be visible from the shore.

Nearly completed drilling island shows the prospective one-acre working area, center, with sides sloping away to the sea until it covers three acres at the water line. Made up of 400,000 tons of rock and 126,000 tons of earthen fill, the island is designed as an inverted filter.

Oil Man's Calendar

28-JULY
2 Petroleum Equipment Suppliers Association, twenty-third annual meeting. Chateau Forntenac, Quebec.

AUGUST
14 American Petroleum Institute, Oil Information Committee Steering Committee meeting. Waldorf-Astoria Hotel, New York City.

19-22 American Institute of Electrical Engineers, general meeting, Sacramento, California.

SEPTEMBER
3-5 American Petroleum Institute Oil Information Committee meeting. Hotel Statler, Boston.

7-12 American Chemical Society, fall meeting, Chicago.

10-12 National Petroleum Association, 56th annual meeting. Traymore Hotel, Atlantic City, N. J.

15-16 Independent Natural Gas Association of America, annual membership meeting. Roosevelt Hotel, New Orleans.

15-17 American Institute of Electrical Engineers, conference on petroleum, Baker Hotel, Dallas.

21-24 American Society of Mechanical Engineers, petroleum division, mechanical engineering conference, Comospolitan Hotel, Denver, Colorado.

25-26 Mid-Continent Oil and Gas Association, Louisiana-Arkansas division, annual meeting, Roosevelt Hotel, New Orleans.

28-Oct. 1. AIME, power conference, Statler Hotel, Boston.

29-Oct. 3 Society of Automotive Engineers, national aeronautic production forum, and aircraft engineering display. The Ambassador Hotel, Los Angeles.

30-OCT.
1 American Petroleum Institute Executive Committee of Board of Directors. Greenbriar Hotel, White Sulphur Springs, West Virginia.

OCTOBER
1-3 American Association of Oilwell Drilling Contractors, 18th annual meeting. Adolphus and Baker Hotels, Dallas, Texas.

5-8 Society of Petroleum Engineers of AIME, fall meeting. Houston, Texas.

5-8 National Association of Corrosion Engineers, northeast region, Somerset Hotel, Boston.

7-8 Texas Mid-Continent Oil and Gas Association, annual meeting, Statler-Hilton Hotel, Dallas.

12-18 OIL PROCESS WEEK.

13-15 American Gas Association, annual convention, Atlantic City, N. J.

13-16 Society of Exploration Geophysicists, annual meeting, Hotel Gunter, San Antonio, Texas.

13-17 American Society of Civil Engineers, annual convention, Hotel Statler, New York.

16-17 Society of Petroleum Engineers of AIME, Southern California petroleum section fall meeting. Biltmore Hotel, Los Angeles.

19-21 National Association of Oil Equipment Jobbers, annual convention & trade show. Hotel Adolphus, Dallas, Texas.

20-24 National Association of Corrosion Engineers, south central region, Roosevelt Hotel, New Orleans.

22-23 National Association of Corrosion Engineers, western region, corrosion control course, U. S. Grant Hotel, San Diego, California.

22-24 Southwestern Federation of Geological Societies, technical meeting, Mineral Wells, Texas.

23-24 Western Petroleum Refiners Association, annual session on refining technology & industrial relations meeting. Rufus Garrett Hotel, El Dorado, Arkansas.

26-31 American Institute of Electrical Engineers, general meeting, Pittsburgh.

27-28 Independent Petroleum Association of America, annual meeting, Statler-Hilton Hotel, Dallas.

NOVEMBER
6-7 American Association of Petroleum Geologists, Pacific section annual meeting, Los Angeles.

10 Transportation Club of the Petroleum Industry, annual meeting, Bismarck Hotel, Chicago.

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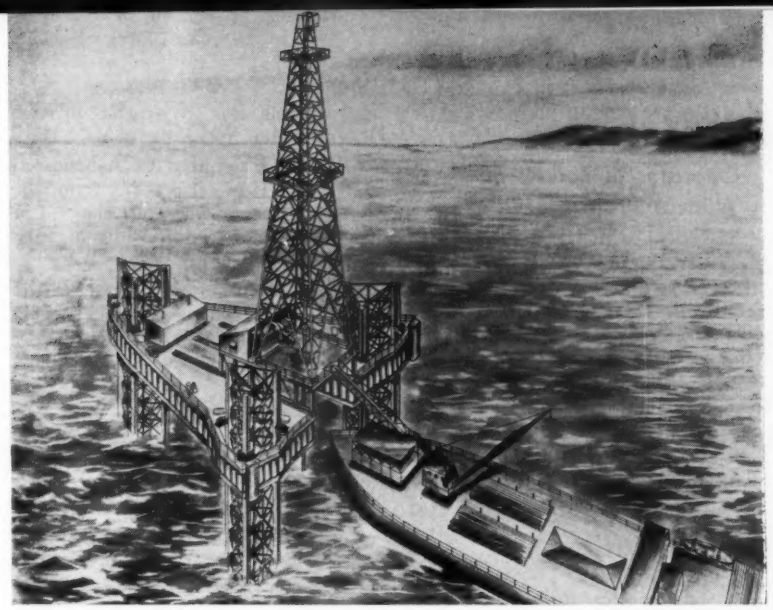

Italian platform, scheduled for completion in about four months, is about one-half the size of large Gulf of Mexico units and costs about $1 million, though an additional $125,000 will be expended in towing it to the Persian Gulf. Supports are three 120-ft.-tall electrically-powered legs.

Miniature, tripod design . . .

Italy Buys Platform

SAIPEM orders $1 million unit from LeTourneau, reportedly to explore Persian Gulf concession

THE Italian government, getting ready to explore its Persian Gulf lease off the coast of Iran, has ordered an offshore drilling platform from R. G. LeTourneau, Inc. of Longview, Texas.

Cost of the three legged island is in excess of $1 million, but Italy will be out an additional $125,000 in towing the unit across the Atlantic.

Purchaser of the new platform is SAIPEM, a subsidiary of the government-owned oil company known as Ente Nazionale Idrocarburi (E. N. I.), headed by oil czar Enrico Mattei and said to be Italy's most successful economic enterprise.

With the completion date set for this fall, construction on the platform has begun at LeTourneau's Vicksburg, Miss., marine ways.

An outstanding economic feature of the Italian's platform will be its size—about one-half the deck area of large self-contained platforms built for use in the Gulf of Mexico.

Its triangular hull will measure 120 ft. by 115 ft., with a depth of 13 ft., whereas previous full-size self-contained LeTourneau-built units have been in the neighborhood of 190 ft. by 152 ft., with a depth of 20 ft.

Because of its limited size, the unit will operate with the assistance of a tender, or supply vessel, anchored continuously alongside.

For their tender, the Italian operators have settled on a converted LST, which will be outfitted in Genoa.

The platforms' three electrically-powered legs will be 120 ft. tall, terminating in round tank-like supports 21 ft. in diameter and 20 ft. tall. Elevating mechanism will be capable of raising the hull, plus its load, above the water at a rate of one foot per minute.

The platform contract is the second entered into by LeTourneau with a foreign group in a two months period. Recently, a Japanese firm ordered $1.5 worth of "component parts and technical guidance" for a platform to drill in the Sea of Japan.

It is also the second rig built by LeTourneau for operations in the Persian Gulf. A miniature platform recently arrived in the Persian Gulf where it will carry on the search for offshore oil in conjunction with the **Queen Mary,** Arabian American Oil Company's large drilling tender.

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(Continued from Page 29)

insured under the same rates as land operations.

A brief filed with the Insurance Board by the American Association of Oilwell Drilling Contractors contested the change in rates, contending that many inland rig locations are more similar to land operations than marine operations.

Navigation School Reopened By Captain John Vandegrift

A navigation school that has been closed since 1954 has been reopened by its original owner and instructor, Captain John F. Vandegrift.

Located in Groves, Texas, just outside the Port Arthur city limits, the reactivated Captain Van's School of Navigation offers such special courses as offshore oil industry limited master and offshore oil industry limited mate. Other marine courses taught are master, chief mate, second mate, third mate, and pilot.

Trinity Bay Field Reservoir Granted 173-Barrel MER

The Texas Railroad Commission has approved an MER of 173 barrels per well per day for the Frio 12 reservoir in the Trinity Bay field of Chambers County.

Becoming effective July 1, the ruling also called for a 660/1200 ft. spacing for reservoir wells and for 80-acre proration units. Another commission ruling set an allocation formula based 25 percent on the well and 75 percent on acreage.

Gulf of Paria

Pipeline and 3 Oilers Finaled By TNA During Early 1958

Trinidad Northern Areas Limited has completed three new producing oil wells in the Gulf of Paria during the early months of 1958.

To further expand its activities, the firm recently laid an undersea pipeline between Point Fortin and its Soldado field.

The three new wells were drilled from TNA's second drilling platform in the Gulf of Paria. A new DeLong type mobile drilling barge has been towed from Germany and will soon begin operations on the TNA lease.

TNA is jointly owned by BP Trading Limited, Shell Trinidad and Texaco Trinidad, Inc.

Turkey

Operator in Turkey Suspends Wildcat Projected Offshore

A wildcat which was drilled partially with the idea of testing an offshore structure on the coast of Turkey has been suspended after the operator ran into technical problems.

First drilling effort in the country by a foreign operator, the well was directionally drilled to a depth of 8869 ft. by Turkish-American Oil Company at Iskenderun.

United Nations

U. N. Agency Rules on Status Of Marine Drilling Platforms

In a recent ruling a United Nations committee said offshore platforms may have a safety zone established out to a distance of 545 yards away, and vessels of all nations should observe this zone.

The committee ruled that nations may build offshore drilling platforms on their continental shelf, if they do not interfere unreasonably with navigation and marine life in the surrounding area.

Venezuela

Mene Grande Lets Contract For 50 Offshore Platforms

Expanding its drilling activities in Lake Maracaibo, Mene Grande Oil Company is adding fifty new platforms to its already extensive group of marine drilling structures.

Construction of the platforms is being handled by Raymond-Brown and Root C. A., a subsidiary of Brown and Root, Inc. and Raymond International, Inc. The contractor plans to build one platform per week.

Mene Grande, which acquired four new leases in the center of the lake in 1956, already has more than 100 platforms on its offshore acreage.

Creole Hits Flush Producers In Lake Maracaibo Block 4

Recent new successes by Creole Petroleum Corporation point to the possibility that flush production in Lake Maracaibo may be moving southward.

In Block 5, south of Block 4 where the Signal group has come up with several highly prolific oilers, Creole has brought in two highly rated new oilers.

A well designated CLA-5 flowed 3700 barrels of oil per day from the Eocene formation, and the CL-6 was finaled for a daily flow of 5000 barrels.

Creole won the concession in the 1956 bidding with a bonus of nearly $25 million. Its activities in the lake have remained secret "for competitive reasons."

Very good production has also been tapped just north of a national reserve block held by Superior Oil Company.

A daily flow of 2200 barrels was tested at the UD-45 venture, and the UD-52 well was finaled for a production of 6000 barrels per day.

Virginia

All Out Court Fight Planned By 29 Accused Companies

Twenty-nine oil companies accused of conspiring to fix prices on gasoline and crude oil have vowed a court battle with no quarters given.

A federal grand jury in Alexandria, Virginia, charged in a six-page indictment that the companies named conspired to fix prices during the Suez crisis in early 1957. Area named as affected covered virtually all states east of the Rocky Mountains.

Accused companies have been denying the charges. President L. F. McCollum of Continental Oil Company said the charges were "preposterous" and "without foundation."

Henderson Supplee, Jr., president of The Atlantic Refining Company, said his company "has not conspired with any company in an attempt to fix prices of crude oil or petroleum products and denies that it has violated the antitrust laws in any way."

Tidewater Oil Company Chief George F. Getty II declared the accusations were "so false as to be absurd."

The companies will attempt to have the indictment quashed. They will attack the makeup of the special grand jury, which contained a number of government employes, and will request a bill of particulars pointing up the exact charges by the government.

If the court decides against the companies, the maximum penalty permitted under the law is a $50,000 fine against each.

Texaco Acquires Seaboard As Wholly Owned Subsidiary

The Texas Company has recently traded $241,500,000 worth of its stock for the total assets of Seaboard Oil Company and its subsidiaries.

A new wholly owned subsidiary of The Texas Company has been formed to control the new properties. This company, Texaco Seaboard, Inc., will be headed by J. Howard Rambin, Jr., senior vice president in charge of Texaco's international producing interests. Other members of the new company's management team include A. W. Baucum, vice president in charge of the domestic production for Texaco, and J. N. Troxell, general manager of domestic production. Both will be vice presidents in the new company. Additional management personnel have not been announced although the Seaboard agreement provided that all officers and employees of Seaboard would be offered employment either with Texaco or Texaco Seaboard.

Transferred properties . . . Involved in this transaction was Seaboard's yearly domestic production of over 12 million barrels of crude oil and 37 billion cubic feet of gas, and Canadian production of over two and a quarter million barrels of crude.

Seaboard held leases and permits on over three and a quarter million acres in the U. S. and Canada, and almost 100,000 acres in Venezuela.

Total estimated oil and gas reserves on this acreage is almost 196 million barrels of oil and 913 billion cubic feet of gas.

In addition Texaco Seaboard acquired undivided interests in 14 natural gasoline plants.

Seaboard also held one third interest in three million acres of Turkish concessions.

Complimenting the company's assets is a working organization which grossed almost 53 million dollars in 1957 and netted over 11 million dollars after taxes.

Merger terms . . . The transaction consisted of trading 3,660,159 shares of Texaco stock, share for share, for Seaboard stock. Seaboard was then dissolved.

Since Texaco already owned 33 percent of the Seaboard stock this transaction only involved acquiring 67 percent of the total Seaboard stock. About 4 percent of Texaco's stock was involved in the transaction.

Texas size . . . The Texas Company's net properties, plant, and equipment holdings prior to the merger totaled over a billion and a half dollars. About 72 percent of this total being in the U. S., 26 percent in other Western Hemisphere countries, and 2 percent in the Eastern Hemisphere.

In addition to this, Texaco owns 30 percent of the Arabian American Oil Company and 50 percent of the Caltex group.

In 1957 Texaco grossed about two and a half billion dollars and netted over 330 million dollars after taxes.

These figures include dividends paid to Texaco by nonsubsidiary companies owned 50 percent or less by Texaco.

Estimated crude oil and gas liquids reserves controlled by Texaco are over three and a third billion barrels.

Interest in nonsubsidiary companies raises the company's net crude-liquids reserves to about 15 billion barrels.

Cause of merger . . . Reason given for the merger on Texaco's side was the need for more domestic production to fill refinery requirements.

Seaboard officials stated that they had decided Seaboard had expanded almost to its limit without substantial additional capital. They feel the merger gives the stock holders an interest in a company that can continue expanding on a large scale.

Stock In Texas-Florida Gas Line To Be Offered

A stock swap between Coastal Transmission Corporation stock holders and stock holders of the Houston Corporation seems to have paved the way for the starting of a 1500 mile natural gas line from McAllen, Texas, to Miami, Florida.

Houston Corporation, parent firm of Houston Texas Gas & Oil Corporation and Coastal Transmission Corporation which has certificates to build the line, is ready to file a registration statement covering issuance of debentures and common stock to finance the $175-million job.

Coastal stockholders agreed to exchange all their stock for 542,234 shares of Houston Corporation capital stock.

Stockholders of Delhi-Taylor Oil Corporation, which organized Coastal to build the section of line from McAllen to Baton Rouge, also have the right to acquire at a later date 515,123 shares of the total Houston shares to be received in the exchange.

The stock exchange was approved recently, shortly after the Supreme Court denied a petition for certiorari filed by a group of fuel-oil distributors in Florida.

Dresser Votes $0.50 Dividend Predicts Better Third Quarter

Dresser Industries, Inc., sales for the second quarter of the current fiscal year were $55,960,000 by comparison with $64,200,000 for the same quarter a year ago. On a per share basis, earnings were $0.41 by comparison with $1.09 a year ago. For the 6-months period ended April 30 sales were $114,365,493 in 1958 as compared with $127,371,173 for 1957. Net profits were $4,968,470 or $1.11 a share in 1958 compared with net profits of $9,421,554 or $2.10 a share earned in the first 6 months of 1957.

Dresser officials stated that the general improvement in the industries served by Dresser's fourteen operating companies indicates an early upturn in these principal markets resulting in a moderately higher level of sales and earnings in the second half of the current fiscal year than in the first half.

From the fourth quarter of 1957, when Dresser sales reached an all-time record high of $75,847,000, the company's volume has declined by nearly 27 percent.

At its meeting May 22, 1958, the Board of Directors declared a quarterly dividend of $0.50 per share payable June 16 to shareholders of record as of the close of business June 2, 1958.

Patent No. 1,856,312

Early Mobile Drilling Island

Submersible structure with circular concrete base can be refloated and moved to a new marine location

TWO inventors in 1932 asserted that their patent for a drilling island which could be refloated upon completion of a well would provide an inexpensive means of recovering oil offshore.

Charles Bradshaw and Nelson Taylor of Los Angeles, pointed out that petroleum reserves had by then been discovered in marine areas some distance from land.

Considerable expense was usually attached to such operations in the construction of piers and other methods of supporting several hundred tons of equipment.

Their proposed design could include several island structures, all connected by a series of walkways as shown in Fig. 1.

A variety of purposes were set forth for the invention. One of these was to provide a structure that could be constructed on the mainland and floated to drill site where it would be submerged until it rested on the ocean floor.

Another aspect was a tank formed by a water tight cylindrical shell beneath the drilling floor to serve as a storage facility for oil produced by the well.

Perhaps the most practical side of the invention was that once a well had been drilled, the entire structure could be refloated and towed to another location.

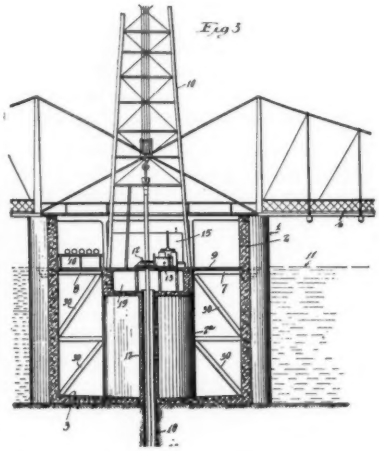
In construction of the unit the partners advised that the best support was a hollow concrete shell (Fig. 3, Item 1) with a bottom made up of a concrete slab thick enough to withstand collapsing forces that might exist as the shell is floated into position for submerging.

An inner shell (2a) constructed in concentric fashion increased the strength and stability while providing a support for the working floors. Reinforcing struts (30) further stiffened the body while supporting the working floors.

Bracing of the two walls may be accomplished either by reinforcing girders, beams, and struts, or by diaphragm walls.

Built into the shell at the mean tide level and below the shell's upper edge is a drilling floor (9) where equipment would be stored and drilling operations carried on.

Actual drilling operations are conducted through a water tight tube (17) of steel or concrete. Built into the bottom of the structure, it extends up to the drilling floor. At its lower end it opens into the sea bottom and permits the operator to drill through it without perforating the structure or letting the sea water into the body of the island.



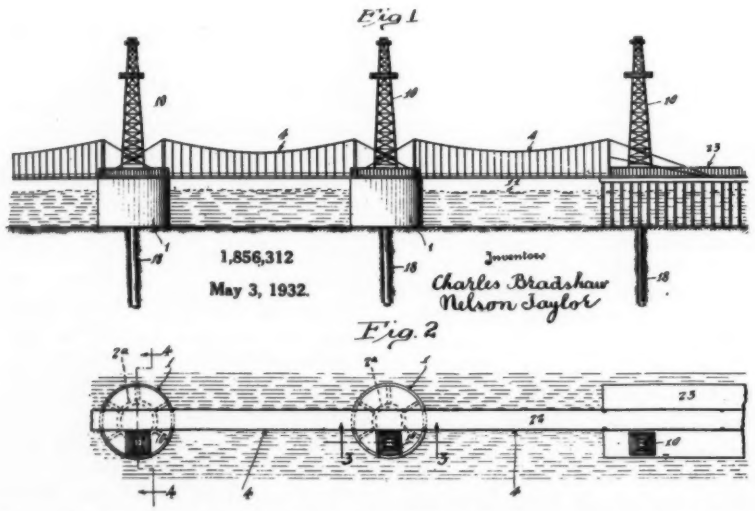
Sectional diagram of the 1932-drilling island reveals its construction from outer concrete wall (1) to permanent water tight drilling tube (17).

Derrick, drawworks, rotary table, and engines may either be housed on the lower floor or the upper floor, according to requirements of the particular operation. Space for a pipe rack (16) is included also.

The structure is submerged at drill site by filling the outer shell with sand or gravel until it sinks to rest on the ocean floor. This constitutes the mass of the island and stabilizes it as well. To refloat the island it is only necessary to remove the ballast.

Once equipment has been set up on the drilling floor, operations are carried out through a protection casing set inside the permanent tube. Drill stem is rotated and lowered inside this double casing as the hole is formed.

A tube (17) connects the bottom of the system with a cellar chamber (19) beneath the drilling floor. According to the designers, this cavity serves the same purposes as any cavity commonly found beneath the derrick floor.



System of drilling islands connected by elevated walkways is shown by a side view in Fig. 1 and a top plan view in Fig. 2. Hollow, cylindrical concrete shells (1) submerged by filling with ballast serve as foundation for drilling apparatus and can later be refloated.

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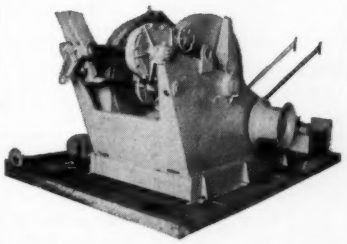

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After the visitor gazed for a long time at the triplets born to her neighbor she said, "Just think, three children at once and all the same age."

"And it happens only once in 6,201 times," the proud mother added.

"How in the world did you have time for your house work?" the bewildered visitor asked.

There once lived a lad who could think of nothing but girls, girls and more girls. However, he outgrew it. Now all he thinks of is women!

Then there's the street cleaner who got fired for day-dreaming. He couldn't keep his mind in the gutter.

The man with laryngitis whispered over the phone, "Is the doctor in?"

"No," the secretary whispered back, "come on up."

"I CAN THINK OF SEVERAL MORE DIGNIFIED WAYS OF GETTING ABOARD!"

1 of 3

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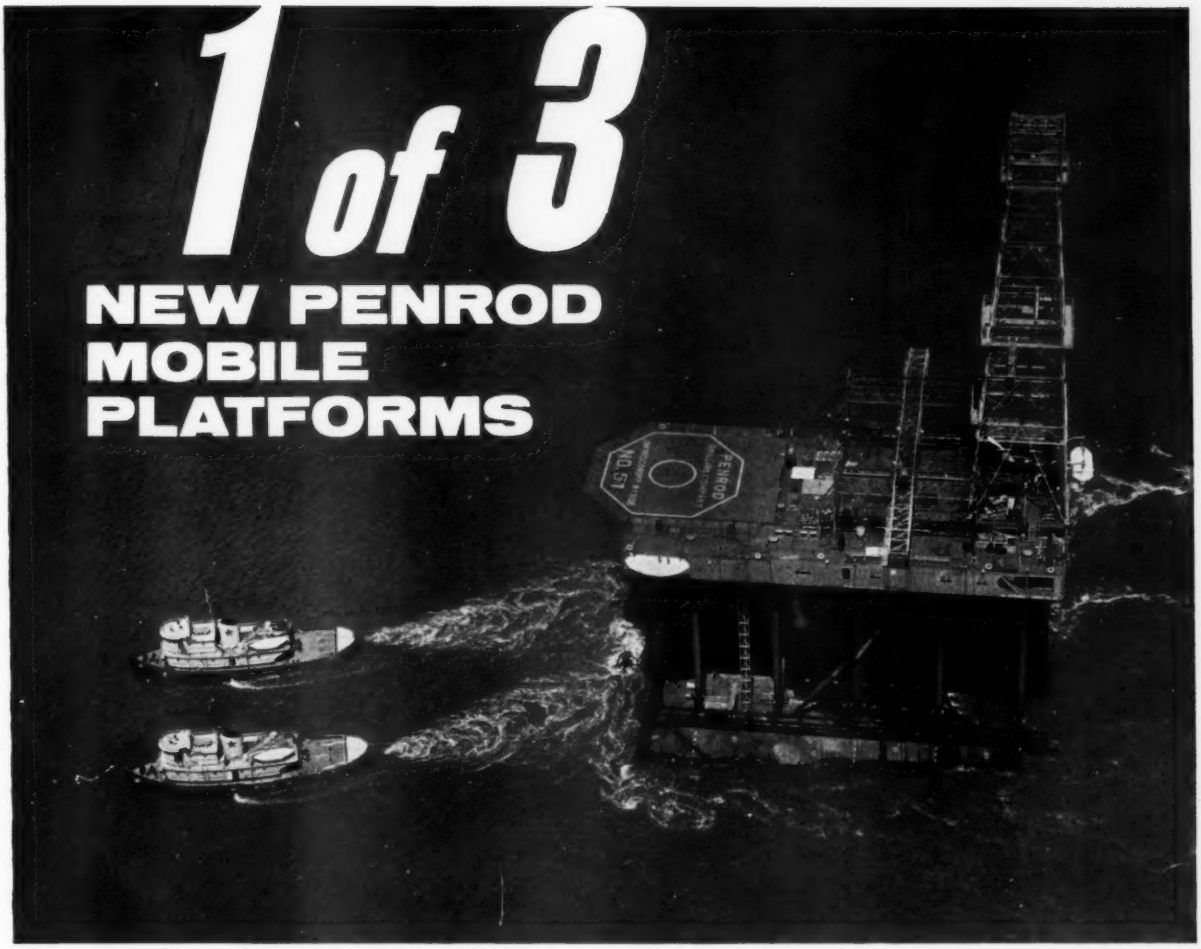

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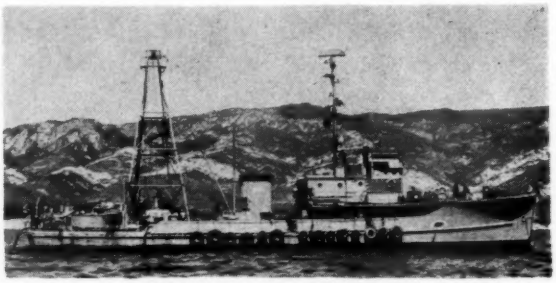
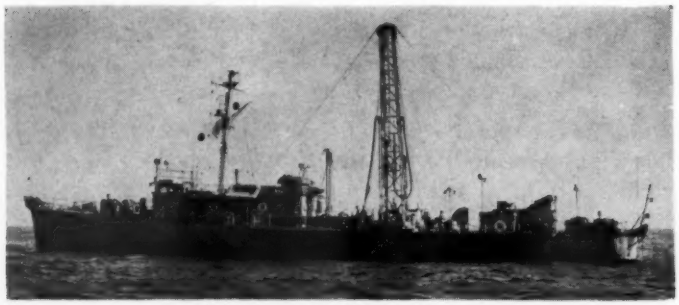


2500 foot range drilling vessel

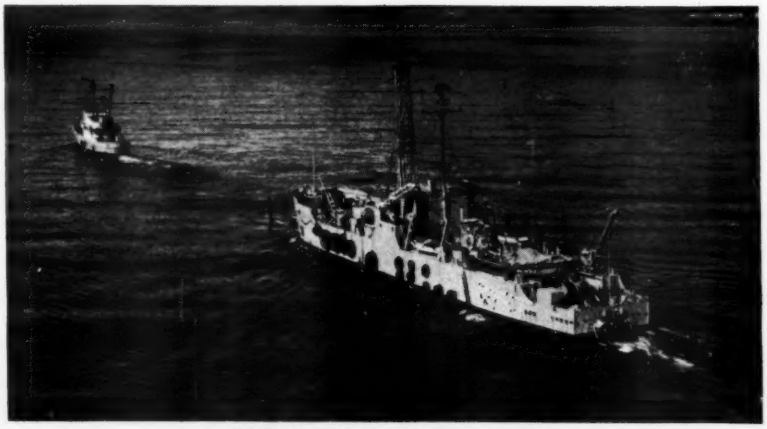


3500 foot range drilling vessel

This vessel is equipped with over-the-side rotary rig, like the foregoing, but has a drilling range of 3,500 feet below the sea floor. It is 173 feet long, and is powered by two 940 h.p. diesels, with 18 knot cruising speed. It is also serviced by a 56-foot twin-screw diesel supply boat, and a 44-foot diesel driven personnel launch.

We operate, but do not own, two steel 200-foot center-well drilling barges, as shown. These have a drilling range of 7,500 feet and are equipped with survey radar, two-way radio, fathometer, and TV, and carry complete housekeeping equipment for marine and drilling crews. They are each serviced by a 100-foot diesel supply and tow-boat, used also to set and retrieve anchors; as well as a diesel powered personnel launch.

Barges fully equipped for drilling to greater depths can be provided on order.



7500 foot range drilling vessel

SUBMAREX CORPORATION

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"Our most valuable assets are integrity and experience"